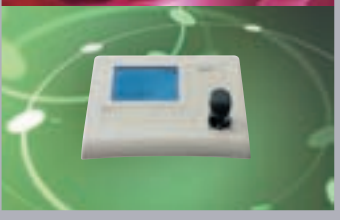
SANYO

IP Camera
Megapixel Camera
SD Camera
Analog Camera
Box Camera
Dome Camera
PTZ Camera

4ch DVR
8ch DVR
9ch DVR
16ch DVR

LCD Monitor
17inch Monitor
19inch Monitor



LCD Touch Panel Controller
Joystick Controller

2010 CCTV Products Catalog

Products Line Up 2010

IP Camera

PTZ	Full HD PTZ Camera **VCC-HD5600P** **VCC-HD5600P BK** DAY NIGHT	P5	
PTZ	Full HD PTZ Camera **VCC-HD5400P** **VCC-HD5400P BK** DAY NIGHT	P5	
Zoom	Full HD Zoom Camera **VCC-HD4600P** DAY NIGHT	P5	
Vandal-resistant	Full HD Vandal-resistant Dome Camera **VDC-HD3500P** DAY NIGHT	P7	
Vandal-resistant	Full HD Vandal-resistant Dome Camera **VDC-HD3300P** DAY NIGHT	P7	
Vandal-resistant	Full HD Vandal-resistant Dome Camera **VDC-HD3100P**	P7	
CS-Mount	Full HD CS-Mount Camera **VCC-HD2500P** DAY NIGHT	P7	
CS-Mount	Full HD CS-Mount Camera **VCC-HD2300P** DAY NIGHT	P7	
CS-Mount	Full HD CS-Mount Camera **VCC-HD2100P**	P7	
Zoom	Full HD Zoom Camera **VCC-HD4000P** DAY NIGHT	P8	
CS-Mount	High-resolution E-Day/night Network Camera **VCC-N6695P** E-DAY NIGHT	P11	
Zoom	Weatherproof AF Zoom Network Camera **VCC-XZN600P** DAY NIGHT	P12	
Zoom	AF Zoom Network Camera **VCC-ZMN600P** DAY NIGHT	P12	
PTZ	Vandal-resistant PTZ Network Dome Camera **VDC-DPN9585P** PAN-FOCUS DAY NIGHT	P13	
PTZ	Indoor mini PTZ Network Dome Camera **VCC-PN9575P** PAN-FOCUS	P13	

Analog Camera

PTZ	High-resolution 36x AF Speed Dome Camera **VCC-9800P E** DAY NIGHT	P19	
PTZ	High-resolution 36x AF Speed Dome Camera **VCC-9700P E**	P19	
PTZ	High-resolution 30x AF Speed Dome Camera **VCC-9600P E** DAY NIGHT	P20	
PTZ	High-resolution 30x AF Speed Dome Camera **VCC-9500P E**	P20	
Zoom	High-resolution Weatherproof AF Zoom Camera **VCC-XZ600P** DAY NIGHT	P23	
Zoom	High-resolution AF Zoom Camera **VCC-ZM600P** DAY NIGHT	P23	
Zoom	High-resolution AF Zoom Camera **VCC-ZM500P**	P24	
P/F	High-resolution Vandal-resistant Dome Camera **VDC-DP7585P** DAY NIGHT	P25	
P/F	High-resolution Indoor mini Dome Camera **VCC-P7575PA**	P25	
P/F	High-resolution Weatherproof Camera **VCC-XZ200P** DAY NIGHT	P26	
WDR	High-resolution Vandal-resistant WDR Dome Camera **VDC-WD9885VP** DAY NIGHT	P28	
WDR	High-resolution Indoor mini WDR Dome Camera **VCC-W9875VP**	P28	
WDR	1/3" COMS High-resolution WDR Day/night Camera **VCC-WD8875P** DAY NIGHT	P29	
WDR	1/3" COMS High-resolution WDR Day/night Camera **VCC-WD8870P** DAY NIGHT	P29	
WDR	1/3" COMS High-resolution WDR Camera **VCC-W8775P**	P30	
WDR	1/3" COMS High-resolution WDR Camera **VCC-W8770P**	P30	

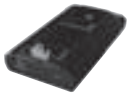
WDR	High-resolution WDR Vandal-resistant Dome Camera **VDC-W1595VP**	P30	
Vandal-resistant	High-resolution Vandal-resistant IR Dome Camera **VDC-D1785IRVP** DAY NIGHT	P31	
Vandal-resistant	High-resolution Vandal-resistant Dome Camera **VDC-D1585VP** DAY NIGHT	P32	
Vandal-resistant	High-resolution Vandal-resistant Dome Camera **VDC-C1575VP**	P32	
Dome	High-resolution Indoor mini Dome Camera **VCC-9785VP**	P33	
CS-Mount	1/3" Color CCD High-resolution Camera **VCC-5995P**	P33	
CS-Mount	1/3" Color CCD E-Day/night High-resolution Camera **VCC-6695P** E-DAY NIGHT	P34	
CS-Mount	1/3" Color CCD E-Day/night High-resolution Camera **VCC-6690P** E-DAY NIGHT	P34	
CS-Mount	1/3" Color CCD High-resolution Day/night Camera **VCC-4795P E** DAY NIGHT	P35	
CS-Mount	1/3" Color CCD High-resolution Day/night Camera **VCC-4790P E** DAY NIGHT	P35	

Lens

1/3"	Standard Vari-focal IR Lens for 1/3" CCD Camera **VA-13VG2811ASIR** (f=2.8 to 11 mm)	P36	
1/3"	**VA-13VG308ASIR** (f=3 to 8 mm)		
1/3"	Tele Vari-focal Lens for 1/3" CCD Camera **VA-13VG550T-LY** (f=5 to 50 mm)		
1/3"	Standard Vari-focal Lens for 1/3" CCD Camera **VA-13VG308AS** (f=3 to 8 mm)		

Camera Accessories

Accessories

Wall Mounting Bracket **VA-50BW**	P5 P9 P10 P21 P22 P37 P38	
Ceiling Suspension Bracket **VA-50BPL**		
Attachment **VA-50AL** **VA-50AM** **VA-50AS**		
Heater Board **VA-50H**		
Smoked Cover **VCZ-50**		
Half-Mirror Cover **VCZ-51**		
In-ceiling Bracket **VA-DK02**		
Adaptor **VA-80AE**		
Attachment (Indoor use) **VA-80A**		
Adaptor Bracket **VA-80AB**		
Corner Mounting Adaptor **VA-80AC**		
Pole Mounting Adaptor **VA-80AP**		
Pendant Mounting Bracket **VA-80BP**		
Wall Mounting Bracket **VA-80BW**		
Clear Dome Cover (Outdoor Housing) **VA-CM8C**		
Smoked Dome Cover (Outdoor Housing) **VA-CM8S**		
Outdoor Housing **VA-80EX**		
Power Supply Base **VA-80SA**		
Power Supply Base **VA-84SA**		
Surface Housing **VA-80FC** **VA-80FS**		
Base Bracket **VA-60BX**		
Base Bracket for VDC-HD3xxxP series **VA-85BX**		
In-ceiling Bracket for VDC-HD3xxxP series **VA-DK03**		
Attachment indoor / Outdoor for VDC-HD3xxxP series / VCC-HD5400P **VA-80AM**		
HDMI-out Option Board for VCC-HD5600P **VA-HDB90**		
Heater for VDC-HD3xxxP series **VA-60H**		
HDD Case **VA-HDC4000**		
HDD Case Bracket **VA-HDK1**		
Power unit AC230V **VA-90S**		
Power unit AC24V **VA-94S**		

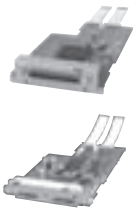
Accessories

In-Ceiling Housing **VA-80MEC** **VA-80MES**	P5 P8 P9 P10 P21	
Wide Conversion Lens **VCP-L07W**		
Wide Conversion Lens **VCP-L07W1**		
LAN Board JPEG Network board for VCC-XZ200P **VA-20LAN**	P14	
JPEG Network board for VDC-DP7585P / VCC-P7575PA **VA-50LAN**		
JPEG Network board (PoE) with Audio for VDC-DP7585P / VCC-P7575PA **VA-51LAN**		
H.264 / JPEG Network board for VCC-9800P E VCC-9700P E / VCC-9600P E VCC-9500P E **VA-82LAN**		
Network Software Network Recorder Software **VA-SW3050S** **VA-SW3050C** **VA-SW3050LITE**	P16	
SANYO Video Management Software (VMS) **VA-SW50** **(Advanced)** **VA-SW60** **(Enterprise)**	P15	
Control Camera Control Unit **VAC-70**	P37	
Board SSP+Twisted pair board **VA-50ST**	P37	
SSP+Twisted pair board **VA-20ST** Twisted pair board **VA-60T**		

DVR

MPEG-4 16ch MPEG-4 Hybrid Digital Video Recorder **DSR-HB8000**	P47	
JPEG2000 16ch Digital Video Recorder **DSR-5716P**	P49	
9ch Digital Video Recorder **DSR-5709P**	P49	
MPEG-4 16ch MPEG-4 Digital Video Recorder **DSR-2116**	P51	
8ch MPEG-4 Digital Video Recorder **DSR-2108**	P51	
4ch MPEG-4 Digital Video Recorder **DSR-2004**	P51	

DVR Accessories

HDD External HDD Unit **VA-EXH**	P46	
Writer Disc Writer Unit **VA-EXD1 B**	P46	
Board SCSI Board **VZU-SCB1** S-ATA Board **VZU-SATB1** S-ATA - PATA Conversion Board **VA-SPC1A** S-ATA - PATA Conversion Board **VA-SPC2**	P46	

Rack Mount Brcket

DVR Rack Mount Bracket **VA-RACMK1** (1U) **VA-RACMK2** (2U) **VA-RACMK3** (DSR-2116/DSR-2108)	P46	

SSP Control Unit

RS-485 SSP System Controller **VSP-9000**	P53 P54	
SSP System Controller **VSP-8500**		
SSP System Controller **VSP-3000**		

Monitor

LCD 19" High Performance Professional LCD Monitor **VMC-L2619P**	P55	
17" High Performance Professional LCD Monitor **VMC-L2617P**		

IP Camera

SANYO presents remote network surveillance solutions. The SANYO Network Camera series offers superior picture quality and a high level of sensitivity for any situation.

Full HD (Full High Definition)
Allows the user to view the surveillance picture in the same picture quality as that of a high definition digital TV of 1080 line scanning. The picture quality is good enough to be displayed on a large screen monitor.

Megapixel
The ultra-fine picture made up of 4 million pixels makes it possible to capture the finest details of a subject under surveillance.

TWIN Engine
The twin-engine system combines the Xacti HD-Pro, the latest engine for professional surveillance, with the newly developed Optimum IP-Pro engine, enabling image processing and network processing to be conducted in parallel using separate engines. This design greatly improves image processing capacity and reduces the network processing load, resulting in faster throughput and a stress-free operating environment.

Dual encoding
These cameras can be set to either H.264 or MJPEG encoding. The encoding format can be set to match the intended use. H.264 encoding enables high-resolution video monitoring. MJPEG encoding produces clear high-definition images.

Video Analytics
The system can be set to monitor certain lines (up to 8) or certain areas (up to 4). It can begin recording, or send an alarm image by email when someone has entered or removed something from a designated area.

25 IPS
The system allows 25 IPS full-motion monitoring with 1920 x 1080 full HD video.

Surveillance-Point Monitoring with Video and Audio Data
Bidirectional audio communication and remote camera control make it possible to monitor any place regardless of local conditions. Monitoring the ambient sound adds a new dimension to the surveillance.

Power-over-Ethernet (PoE)
SANYO Network cameras support the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to allow power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

HDMI
These cameras can be connected to an HD-compatible TV that can display high-definition images, using a commercially available HDMI cable.

Category		H.264/MJPEG								
Model No.		VCC-HD5600P/BK	VCC-HD5400P/BK	VCC-HD4600P	VDC-HD3500P	VDC-HD3300P	VDC-HD3100P	VCC-HD2500P	VCC-HD2300P	VCC-HD2100P
Lens		10x AF Zoom lens	10x AF Zoom lens	10x AF Zoom lens	Vari-focal lens	Vari-focal lens	Vari-focal lens	CS mount	CS mount	CS mount
Day/Night		True Day/Night					————	True Day/Night		————
Minimum illumination	50IRE	Color 2.0 lx B/W 0.1 lx	Color 2.0 lx B/W 0.1 lx	Color 2.0 lx B/W 0.1 lx	Color 1.0 lx B/W 0.1 lx	Color 1.0 lx B/W 0.1 lx	Color 1.0 lx	Color 1.0 lx B/W 0.1 lx	Color 1.0 lx B/W 0.1 lx	Color 1.0 lx
	20IRE	Color 0.8 lx B/W 0.04 lx	Color 0.8 lx B/W 0.04 lx	Color 0.8 lx B/W 0.04 lx	Color 0.4 lx B/W 0.04 lx	Color 0.4 lx B/W 0.04 lx	Color 0.4 lx	Color 0.4 lx B/W 0.04 lx	Color 0.4 lx B/W 0.04 lx	Color 0.4 lx
	F	F1.8	F1.8	F1.8	F1.2	F1.2	F1.2	F1.2	F1.2	F1.2
Backlight compensation		Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone
White-balance		ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual
Image stabilizer		●			——					
Image compression		H.264 / MJPEG								
Resolution		**<H.264>16:9** 1920x1080, 1280x720, 640x360, 320x180 **4:3** 1600x1200, 1280x960, 1024x768, 640x480, 320x240 **<MJPEG>16:9** 1920x1080, 1280x720, 1024x576, 640x360 **4:3** 1600x1200, 1280x960, 1024x768, 800x600, 640x480, 320x240		**<H.264>16:9** 1920x1080, 1280x720, 640x360, 320x180 **4:3** 1600x1200, 1280x960, 1024x768, 640x480, 320x240 **<MJPEG>16:9** 1920x1080, 1280x720, 1024x576, 640x360 **4:3** 2288 x 1712, 1600x1200, 1280x960, 1024x768, 800x600, 640x480, 320x240					
Picture quality		Quality: (BASIC, NORMAL, ENHANCED, FINE, SUPER FINE) Bitrate: Changeable								
Frame rate		Max. 25 ips (1920x1080)								
Streaming number		4			2		4	2		
Video streaming		Multi stream H.264 and MJPEG (Max. 1920x1080 25 ips)								
Audio compression method		G.711, Bidirectional (Full duplex)			——		G.711, Bidirectional (Full duplex)	——		
Power supply		24 V AC ±10%, 50Hz*2 230 V AC ±10%, 50Hz*3	PoE (IEEE802.3af) / 24 V AC ±10%, 50Hz 12 V to 15 V DC							
Interface		10BASE-T / 100BASE-TX (RJ-45 connector)								
Protocols		TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, DDNS, RTP, RTSP								
Simultaneous access capacity		Max. 20								
Security		BASIC authentication (ID/password), SSL supported (Only JPEG), IP filtering								
Bundled software		VA-SW3050LITE, HDC Downloder, DL Viewer, Auto IP Setup Utility, H.264 Plug-in software								
Page		5	5	5	7	7	7	7	7	7

Category	H.264/JPEG				JPEG	
	VCC-HD4000P	VCC-N6695P	VCC-XZN600P	VCC-ZMN600P	VDC-DPN9585P	VCC-PN9575P
Lens	10x AF Zoom lens	CS Mount	30x AF Zoom lens		2.6x AF Zoom lens	
Color or Day/Night	Day/Night				Day/Night	Color
Image stabilizer	————		●		————	
Image compression	H.264/JPEG (simultaneous transmission available)				JPEG	
Resolution	**<H.264>16:9** 1920 x 1080P, 1280 x 720P, 960 x 540P, 640 x 360P, 320 x 180P **4:3** 1080 x 864P, 720 x 576p, 360 x 288P **<MJPEG>16:9** 1920 x 1080, 1280 x 720, 1024 x 576, 640 x 360 **4:3 4M** 2288 x 1712, **2M** 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 320 x 240	**<H.264>** 720 x 576, 352 x 288, 176 x 144 **<JPEG>** 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144			**<JPEG>** 720 x 286, 640 x 480, 360 x 286, 180 x 143	
Picture quality	Super Fine, Fine, Enhanced, Normal, Basic					
Frame rate	Max.25IPS (1920 x 1080)	Max.25IPS (720 x 576)				
Microphone input	————				–62 to –32 dB (monaural microphone) 3.5 ø mini jack	
Audio output	————				LINE OUT monaural voice output Maximum -8 dBs 3.5 ø mini jack	
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4, 5, 6 Mbps, no limitation	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation				
PoE (Power over Ethernet)	Compliant with IEEE802.3af					
Audio	————				Bi-directional audio G.711 (192 Kbps) 16 bit 12 KHz	
DDNS	●					
Alarm buffer	32 MB	8 MB				
Interface	10BASE-T / 100BASE-TX (RJ-45 connector)					
Protocols	RTP*, RTSP*, TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS				
Simultaneous access capacity	Image: Max. 16, Audio: Max. 16 (admin: 1)					
Security	BASIC authentication (ID/password), SSL supported (image only)					
Bundled software	VA-SW3050LITE HDC Downloder DL Viewer	VA-SW3050LITE				
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*Available for CGI commend only
*2 Combination with VCC-MCH5600P / VCC-MCH5600P BK (Camera unit) and VA-94S (24 V AC) (Power unit)
*3 Combination with VCC-MCH5600P / VCC-MCH5600P BK (Camera unit) and VA-90S (230V AC) (Power unit)

Full HD PTZ Camera
VCC-HD5600P/VCC-HD5600P BK
Black color version
NEW

PTZ | TWIN Engine | H.264 MJPEG | Video Analytics
25 IPS (1920 x 1080) | Bidirectional Audio | 24 V AC or 230 V

Full HD PTZ Camera
VCC-HD5400P/VCC-HD5400P BK
Black color version
NEW

PTZ | TWIN Engine | H.264 MJPEG | Video Analytics
25 IPS (1920 x 1080) | Bidirectional Audio | 24 V AC 12 V to 15 V DC | PoE

Full HD Zoom Camera
VCC-HD4600P
NEW

4 M | TWIN Engine | H.264 MJPEG | Video Analytics
25 IPS (1920 x 1080) | Bidirectional Audio | 24 V AC 12 V to 15 V DC | PoE

Equipped with the Exclusive Xacti HD-Pro Engine and Optimum IP-Pro Engine

Dual encoding + multi-streaming

Two encoding formats can be selected: H.264 or MJPEG. Up to four types of streams can be selected depending on resolution, frame rate, picture quality and so on.
The encoding format can be selected to match the intended use: H.264 for video monitoring and MJPEG for vivid high resolution image recording.

Picture quality and size can be freely selected.

1280×720	H.264	25IPS	x 1 stream	Single-screen live monitoring
320×180	H.264	25IPS	x 1 stream	Multi-screen live monitoring
1280×720	JPEG	5IPS	x 1 stream	Recording
640×360	JPEG	12.5IPS	x 1 stream	Single-screen live monitoring

Cropping function

Specific sections of the high-definition, high-resolution images can be clipped and saved at VGA size. As the resolution is unchanged and specific sections of the image can be clipped, the high-definition images that are sent are small in size, ensuring effective use of network bandwidth.

Video Analytics

The system can be set to monitor certain lines (up to 8) or certain areas (up to 4). It can begin recording, or send an alarm image by email when someone has entered or removed something from a designated area.

Optional (sold separately) See page 9, 10, 16, 37 for details.

HDMI-Out Option Board VA-HDB90 (Only for VCC-HD5600P / VCC-HD5600P BK)
Hard Disk Case VA-HDC4000
Hard Disk Case Bracket VA-HDK1 for VCC-HD4600P / Network Recorder VA-SW3050S / VA-SW3050C / Video Management Software (VMS) VA-SW50 (Advanced) / VA-SW60 (Enterprise) / Wide Conversion Lens VCP-L07W1 for VCC-HD4600P / Camera Control Unit VAC-70 for VCC-HD4600P

VCC-HD5600P / BK		VCC-HD5400P / BK
Outdoor type	**Surface type (Indoor)**	**In-ceiling type (Indoor)**
Outdoor housing **VA-80EX** (Sold separately)	**VA-94S** Power Unit AC24 V or **VA-90S** Power Unit AC230 V	In-ceiling bracket **VA-80MEC / VA-80MES** (Sold separately)
+	+	**VA-80AE**
VA-94S Power Unit AC24 V or **VA-90S** Power Unit AC230 V	**VCC-MCH5600P** (Camera unit) or **VCC-MCH5600P BK** (Black color version)	+
+		
No Surface cover required. **VCC-MCH5600P** (Camera unit) or **VCC-MCH5600P BK** (Black color version)		with clear dome cover in **VA-80MEC** with smoked dome cover in **VA-80MES**
+		**Surface type (Indoor)**
VA-CM8C / VA-CM8S (Sold separately)		

Model number codes

Model configurations example

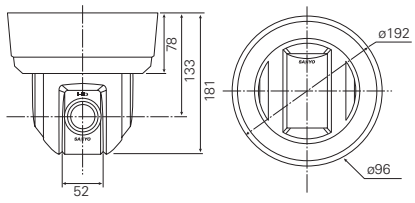
Model name	Camera unit	+	Power basement	+	Housing	+	Dome cover
VCC-HD5600EXCP	VCC-MCH5600P	+	VA-94S	+	VA-80EX	+	VA-CM8C
VCC-HD5600EXSP	VCC-MCH5600P	+	VA-94S	+	VA-80EX	+	VA-CM8S
VCC-HD5630EXCP	VCC-MCH5600P	+	VA-90S	+	VA-80EX	+	VA-CM8C
VCC-HD5630EXSP	VCC-MCH5600P	+	VA-90S	+	VA-80EX	+	VA-CM8S

Model name	Camera unit	+	Adaptor	+	Housing
VCC-HD5400EMCP	VCC-HD5400P	+	VA-80AE	+	VA-80MEC
VCC-HD5400EMSP	VCC-HD5400P	+	VA-80AE	+	VA-80MES

Housing type
Outdoor housing EX BK Black color version
VCC-HD56 □□□□□P□□
Power: 230 V AC 30 / 24 V AC 00
Dome cover: C Clear cover S Smoked cover

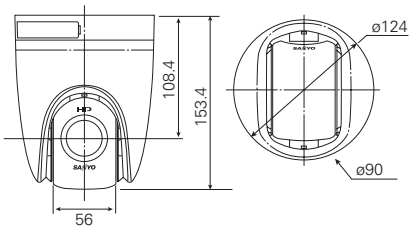
Housing type
In-ceiling (closed) EM BK Black color version
VCC-HD5400 □□□P□□
Dome cover: C Clear cover S Smoked cover

VCC-HD5600P / VCC-HD5600P BK



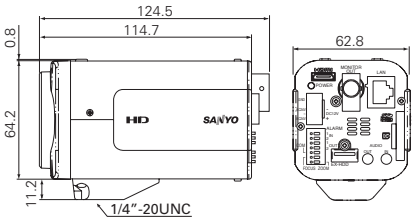
(Unit: mm)

VCC-HD5400P / VCC-HD5400P BK



(Unit: mm)

VCC-HD4600P



(Unit: mm)

Model	VCC-HD5600P / VCC-HD5600P BK	VCC-HD5400P / VCC-HD5400P BK	VCC-HD4600P
Image sensor	1/2.5" Progressive Scan CMOS		
Number of pixels	Effective 16:9 1920 (H) x 1080 (V) 4:3 1600(H) x 1200(V)		Effective 16:9 1920 (H) x 1080 (V) 4:3 2288(H) x 1712(V)
Lens	Focal length f=6.3 to 63.0mm, Optical zoom 10x, F number F1.8 to 2.5, Digital zoom 16x		
Image compression	H.264 / MJPEG		
View angle	Horizontal :(16:9) 5.5 to 50.6° (4:3) 5.2 to 48.7° Vertical: (16:9) 3.1 to 29.3° (4:3) 3.9 to 37.0° Diagonal: (16:9) 6.2 to 57° (4:3) 6.5 to 58.8°		
Auto Focus	Auto / Manual / One-push		
Minimum illumination	2.0 lx (at.F1.8, GAIN: HIGH, at color mode) / 0.1 lx (at F1.8, GAIN: HIGH, at B/W mode)		
Video S/N ratio	More than 50dB AGC OFF		
Day/Night	True Day / Night		
White balance	ATW / AWC / MWB / Outdoor / Indoor / Fluorescent Adjustable R and B signals in MWB mode		
Backlight compensation	Multi-spot photometry / Center-zone photometry / OFF, mask settings possible / Face		
Electronic shutter	1/25, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 Long shutter: x1, x2, x4, x8, x16, x32		
Electronic Iris	On / Off		
Auto Gain control	Normal / Middle / High / Off, Adjustable gain control in Off mode		
Gamma	0.45/1/Mode1/Mode2		
Privacy masking	ON / OFF, Max. 8 masks		
Motion detector	Yes, Video analytics		
Aperture compensation	On/Off		
DNR	3D		
Title	16 characters		
Face detection	●		
Image Stabilizer	●		

Mechanical			
Movement range	Panning: 360° Endless pan Tilting: -20° to +200°		—
Movement speed	Panning: 420°/sec. (24V AC) Tilting: 360°/sec. (24V AC)	Panning: 350°/sec. (24V AC) Tilting: 350°/sec. (24V AC)	—
Preset positions	256 positions		—
Auto mode	Sequence / auto pan / tour		—
Auto return	On / Off		—
Auto pursuit	On / Off		—

Interface			
Video output	Composite out (for adjustment only), HDMI*1	Composite out (for adjustment only), HDMI	Composite out (for adjustment only), HDMI (mini type)
SD card slot	1(SDHC)		
Network port	10BASE-T / 100BASE-TX (RJ45 connector)		
Alarm input/output	8/2	4/2	2/2
Audio input/output	Mic in / Line out (3.5 mini jack)		
Communication	RS-485		—
USB port	For dedicated HDD case only		

General				
Environmental conditions	Operating	Temperature: -10° to +50° (14°F to 122°F), -30° to +50° (-22°F to 122°F) when the outdoor housing, VA-80EX is used, Humidity: within 90% RH	Temperature: -10° to +50°(14°F to 122°F) Humidity: within 90% RH	
	Storage	Temperature: -20 to +70°C (-4°F to 158°F) Humidity: within 70% RH		
Power requirement		24V AC ±10%, 50Hz*2 230 V AC ±10%, 50Hz*3	24V AC ±10%, 50Hz / 12 to 15V DC, PoE (IEEE802.3af)	
Power consumption (approx.)		29 W : VCC-MCH5600P+VA94S 27 W : VCC-MCH5600P+VA90S	21 W (24 V AC, 12 V DC), 12.3 W (PoE)	15.0 W (24 V AC / 12 V DC), 12.3 W (PoE)
Outdoor housing		35 W : VA-80EX	—	
Dimensions (approx.)		ø192 x 181(H) mm (7.56 x 7.13 inch)	ø124 x 153.4(H) mm (4.88 x 6.04 inch)	62.8(W) x 64.2(H) x 114.7(D)mm (2.47(W) x 2.53(H) x 4.52(D) inch)
Weight (approx.)		Camera unit: 1.3 kg (45.9 oz) Power unit: 0.45 kg (15.9 oz) Surface cover: 0.11 kg (3.9 oz)	1.35 kg (47.62 oz)	420g (14.81 oz)

*1 Option
*2 Combination with VCC-MCH5600P / VCC-MCH5600P BK (Camera unit) and VA-94S (24 V AC) (Power unit)
*3 Combination with VCC-MCH5600P / VCC-MCH5600P BK (Camera unit) and VA-90S (230V AC) (Power unit)

NOTE: Specifications subject to change without notice

Full HD Vandal-resistant Dome Camera
VDC-HD3500P NEW

4 M | TWIN Engine | H.264 MJPEG | Video Analytics
25 IPS (1920 x 1080) | Bidirectional Audio | 24 V AC 12 V to 15 V DC | PoE

Full HD Vandal-resistant Dome Camera
VDC-HD3300P NEW

4 M | H.264 MJPEG
25 IPS (1920 x 1080) | 24 V AC 12 V to 15 V DC | PoE

Full HD Vandal-resistant Dome Camera
VDC-HD3100P NEW

4 M | H.264 MJPEG
25 IPS (1920 x 1080) | 24 V AC 12 V to 15 V DC | PoE

Full HD CS-Mount Camera
VCC-HD2500P NEW

4 M | TWIN Engine | H.264 MJPEG | Video Analytics
25 IPS (1920 x 1080) | Bidirectional Audio | 24 V AC 12 V to 15 V DC | PoE

Full HD CS-Mount Camera
VCC-HD2300P NEW

4 M | H.264 MJPEG
25 IPS (1920 x 1080) | 24 V AC 12 V to 15 V DC | PoE

Full HD CS-Mount Camera
VCC-HD2100P NEW

4 M | H.264 MJPEG
25 IPS (1920 x 1080) | 24 V AC 12 V to 15 V DC | PoE

Equipped with the Exclusive Xacti HD-Pro Engine and Optimum IP-Pro Engine
(Not available on VCC-HD2300P / VCC-HD2100P / VDC-HD3300P / VDC-HD3100P)

Dual encoding + multi-streaming
Two encoding formats can be selected: H.264 or MJPEG. Up to four types of streams can be selected depending on resolution, frame rate, picture quality and so on.
The encoding format can be selected to match the intended use: H.264 for video monitoring and MJPEG for vivid high resolution image recording. (2 streams in the case of VCC-HD2100P / VCC-HD2300P / VDC-HD3300P / VDC-HD3100P)

Drip-proof / shockproof vandal-resistant dome camera
Models VDC-HD3500P, VDC-HD3300P and VDC-HD3100P are ideal for use in locations accessible by the general public such as convenience stores, parking areas, parks and city streets.

Focus assist
Megapixel cameras that take high-definition images require precise focusing. The focus assist function makes it possible to adjust the focus visually using the numbers and graphs that appear on the monitoring screen, resulting in clear, sharp images.

Digital PTZ
Up to four sections of the entire monitoring screen can be clipped and saved at VGA size. Digital signal control makes it easy to pan, tilt and zoom the camera to align the camera field angle with the target object, and to enlarge or reduce the image. These capabilities ensure efficient monitoring operations. (Not available on VCC-HD2300P / VCC-HD2100P / VDC-HD3300P / VDC-HD3100P)

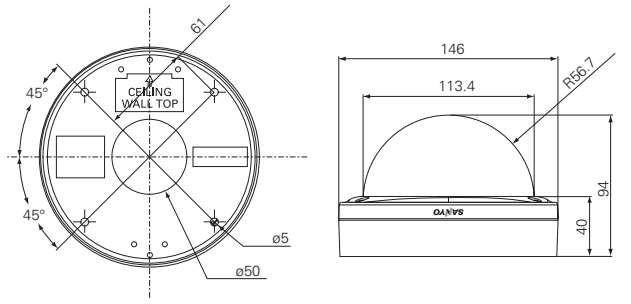
Bidirectional audio capability (full-duplex transmission) (G.711 PCM <64 kbps>)
The bidirectional audio function enables interactive communication between the camera and the microphone on the client PC. (Not available on VCC-HD2300P / VCC-HD2100P / VDC-HD3300P / VDC-HD3100P)

3-D DNR function
The 3-dimensional dynamic noise reduction function reduces the noise in images even when monitoring dark locations.

SD slot for high-definition recording on the camera itself
In addition to constant recording, it is possible for the camera to record high-definition video by itself through the use of an SD card. This is useful when the system is set to begin recording when a sensor is activated, or in the event of network trouble and the like. This capability ensures that a recording will be made regardless of the network traffic status.
(Not available on VCC-HD2300P / VCC-HD2100P / VDC-HD3300P / VDC-HD3100P)

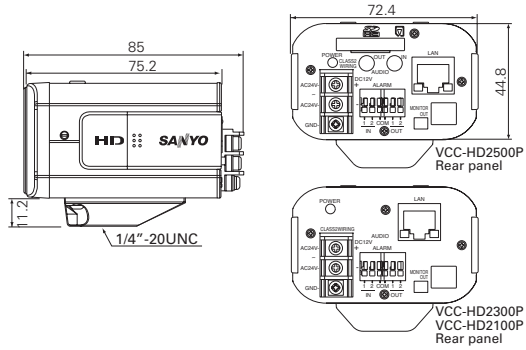
Optional (sold separately) See page 9, 15, 16 for details.
Heater Board VA-60H (Only for VDC-HD3xxxP series)
Network Recorder VA-SW3050S / VA-SW3050C
Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)

VDC-HD3500P / VDC-HD3300P / VDC-HD3100P



(Unit: mm)

VCC-HD2500P / VCC-HD2300P / VCC-HD2100P



(Unit: mm)

Model	VDC-HD3500P	VDC-HD3300P	VDC-HD3100P	VCC-HD2500P	VCC-HD2300P	VCC-HD2100P
Image sensor	1/3" Progressive Scan CMOS					
Number of pixels	Effective 16:9 1920 (H) x 1080 (V) 4:3 2288(H) x 1712(V)					
Lens / Lens mount	Built in vari-focal lens f=3 to 9 mm F1.2 to 2.1			CS mount		
Electronic focus adjustment	With focus assist					
Image compression	H.264 / MJPEG					
Flange back	—			12.5mm ±0.5mm electronic adjustment with focus assist drive		
View angle	Horizontal :(16:9) 34.6 to 102.2° (4:3) 31.7 to 93.0° Vertical: (16:9) 19.5 to 55.4° (4:3) 23.8 to 68.4° Diagonal: (16:9) 39.4 to 109.7° (4:3) 39.6 to 118.9°			—		
Auto iris control	DC type					
Minimum illumination	1.0 lx (at.F1.2, GAIN: HIGH, at color mode) / 0.1 lx (at F1.2, GAIN: HIGH, at B/W mode)		1.0 lx (at.F1.2, GAIN: HIGH, at color mode)	1.0 lx (at.F1.2, GAIN: HIGH, at color mode) / 0.1 lx (at F1.2, GAIN: HIGH, at B/W mode)		1.0 lx (at.F1.2, GAIN: HIGH, at color mode)
Video S/N ratio	More then 50dB AGC OFF					
Day/Night	True Day / Night		—	True Day / Night		—
White balance	ATW / AWC / MWB / Outdoor / Indoor / Fluorescent Adjustable R and B signals in MWB mode					
Backlight compensation	Multi-spot photometry / Center-zone photometry / OFF mask settings possible / Face	Multi-spot photometry / Center-zone photometry / OFF mask settings possible		Multi-spot photometry / Center-zone photometry / OFF mask settings possible / Face	Multi-spot photometry / Center-zone photometry / OFF mask settings possible	
Electronic shutter	1/25, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 Long shutter: x1, x2, x4, x8, x16, x32					
Auto Gain control	Normal / Middle / High / Off, Adjustable, gain control in Off mode					
Gamma	0.45 / 1 / Mode1 / Mode2					
Privacy masking	ON / OFF, Max. 8 masks					
Motion detector	●, Video analytics	●		●, Video analytics	●	
Aperture compensation	On/Off					
DNR	3D					
Title	16 characters					
Face detection	●	—		●	—	

Interface				
Monitor output	Composite out (for adjustment only)			
SD card slot	1(SDHC)	—	1(SDHC)	—
Network port	10BASE-T / 100BASE-TX (RJ45 connector)			
Alarm input/output	2 / 2			
Audio input/output	Mic in / Line out (3.5 mini jack)	—	Mic in / Line out (3.5 mini jack)	—

General					
Environmental conditions	Operating	Temperature: -10 to +50°C (14°F to 122°F) Humidity: within 90% RH			
	Storage	Temperature: -20 to +70°C (-4°F to 158°F) Humidity: within 70% RH			
Power requirement		24V AC ±10%, 50Hz / 12 to 15V DC, PoE (IEEE802.3af)			
Power consumption (approx.)		6.8W (with Heater 20W)	4.6W (with Heater 18W)	6.8W	4.6 W
Dimensions (approx.)		ø146 x 94(H) mm (5.75 x 3.70(H) inch)		72.4(W) x 44.8(H) x 75.2(D) (2.85(W) x 1.76(H) x 2.96(D) inch.)	
Weight (approx.)		800 g (28.22 oz)	770 g (27.16 oz)	250 g (8.82 oz)	220 g (,7.76 oz)

NOTE: Specifications subject to change without notice

Full HD Zoom Came
VCC-HD4000P

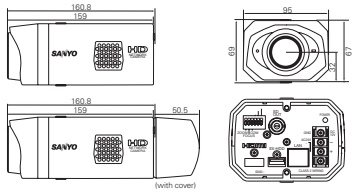
4 M | H.264 MJPEG | Multi-spot / Center-zone BLC | ATW AWC Manual
25 IPS (1920 x 1080) | 24 V AC 12 V to 15 V DC | PoE | HDMI

Optional (sold separately)
Wide Conversion Lens VCP-L07W

Image sensor	1/2.5" CMOS sensor
Effective picture elements	2320(H) x 1728(V) approx. 4.Megapixels
Lens	Focal length f=6.3 to 63.0mm Optical 10x, F number F1.8 to 2.5, Digital zoom 16x
Synchronizing system	Internal sync.
Minimum illumination	2.0 lx (at.F1.8, GAIN: HI, at color mode) / 0.1 lx (at F1.8, GAIN: HI, at B/W mode)
Video S/N ratio	50dB AGC OFF
Day/Night	Auto / Color / B/W
Focus	AUTO / MANUAL / ONE-PUSH: Selectable focus area
White balance	ATW / AWC / MWB / Outdoor / Indoor / Fluorescent Adjustable R and B signals in MWB mode
Backlight compensation	Multi-spot potometry / Center-zone potometry / OFF mask settings possible / Face
Electronic shutter	1/25, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 x1, x2, x4, x8, x16, x32
Gain control	Normal / Middle / High / Off, Adjustable gain control in Off mode
Electronic sensitive boost	AUTO / OFF, Max. 32x
Privacy masking	ON / OFF, Max. 5 masks
Motion detector	ON / OFF, Selectable area detection, Selectable sensitivity level, Motion alarm zoom function: Selectable magnified ratio and duration time, Human face detection *Available in preset positions
Recording rate	Selectable (Max. 25 IPS)
Recording mode	Alarm recording Pre / Post setting (Selectable recording rate) / Suspicion recording (Selectable recording rate)

SD card slot	1 (SDHC supported)
USB port	Supported HDD *Require optional HDD case
Video output	HD output HDMI port, SD output composite (BNC terminal, NTSC or PAL)
Alarm input	2 NO / NC setting, This output is also used for day/night control of color, B/W and auto mode.
Alarm output	1 Selectable NO/NC; open collector
External lens control	Zoom / Focus / Common (Voltage control: ±6 to ±12 V)
Environmental conditions	Temperature: –10°C to +50°C (+14°F to +122°F), Humidity: within 90% RH
Power requirement	24 V AC ±10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)
Power consumption	12.3 W
Dimensions	95(W) x 67(H) x 159(D) mm [3.7(W) x 2.6(H) x 6.3(D) in.]
Weight	710 g [25.0 oz.]

VCC-HD4000P



(Unit: mm)

Option combination

VDC-HD3500P / VDC-HD3300P / VDC-HD3100P

	Attachment	Bracket
Indoor / Outdoor **Surface**	—	VA-85BX Eliminates need for cable access hole in wall, ceiling etc.
Indoor **In-Ceiling**	—	VA-DK03
Indoor / Outdoor **Wall Mounting**	VA-80AM	VA-80BW
Indoor / Outdoor **Pendant Mounting**		VA-80BP
Indoor **Wall Mounting**		VA-50BW
Indoor **Pendant Mounting**		VA-50BPL
Indoor / Outdoor **Corner Mounting**		VA-80BW VA-80AC
Indoor / Outdoor **Pole Mounting**		VA-80AP

VCC-HD5400P

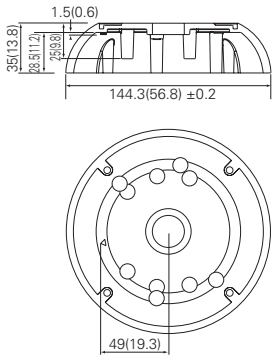
	Attachment / Housing	Bracket	
Indoor **Pendant Mounting**	VA-80AM	VA-80BP	
Indoor **In-Ceiling**	VA-80MEC VA-80MES	VA-80AE	
Indoor **Wall Mounting**	VA-80AM	VA-80BW	—
Indoor **Corner Mounting**			VA-80AC
Indoor **Pole Mounting**			VA-80AP

VCC-HD5600P

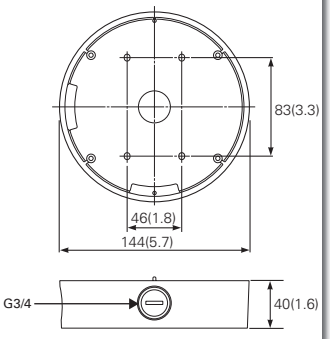
	Attachment / Housing	Dome Cover	Bracket	
Indoor **Pendant Mounting**	VA-80A	—	VA-80BP	
Outdoor **Pendant Mounting**	VA-80EX	VA-CM8C/S		
Indoor **Wall Mounting**	VA-80A	—	VA-80BW	—
Outdoor **Wall Mounting**	VA-80EX	VA-CM8C/S		
Indoor **Corner Mounting**	VA-80A	—		VA-80AC
Outdoor **Corner Mounting**	VA-80EX	VA-CM8C/S		
Indoor **Pole Mounting**	VA-80A	—		VA-80AP
Outdoor **Pole Mounting**	VA-80EX	VA-CM8C/S		

Dimensions (mm:inch)

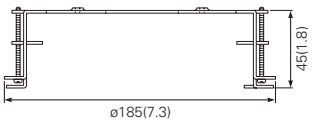
Attachment
VA-80AM



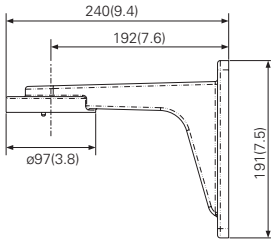
Base Bracket
VA-85BX



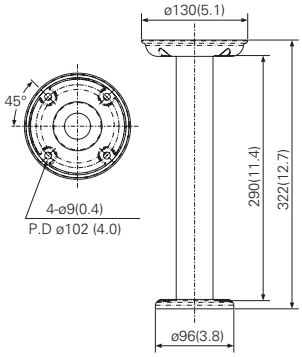
In-ceiling Bracket
VA-DK03



Wall Mounting Bracket
VA-80BW

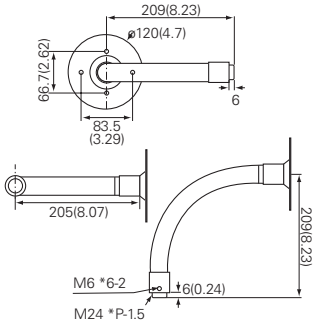


Pendant Mounting Bracket
VA-80BP



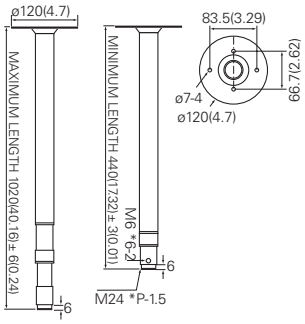
Wall Mounting Bracket
VA-50BW

350g (12.3 oz.)

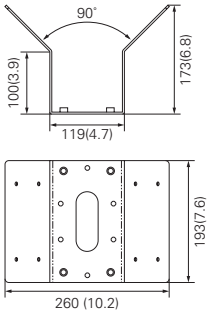


Ceiling Suspension Bracket
VA-50BPL

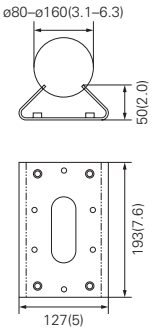
550g (19.4 oz.)



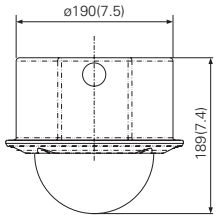
Corner Mounting Adaptor
VA-80AC



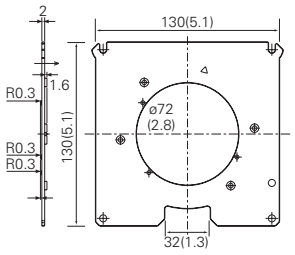
Pole Mounting Adaptor
VA-80AP



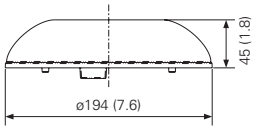
In-ceiling Housing
VA-80MEC/MES



Adaptor
VA-80AE



Attachment
VA-80A



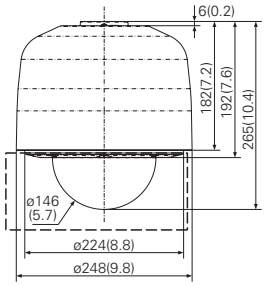
Dome Cover

Clear Dome Cover
VA-CM8C for outdoor housing

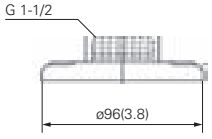
Smoked Dome Cover
VA-CM8S for outdoor housing

Outdoor Housing
VA-80EX

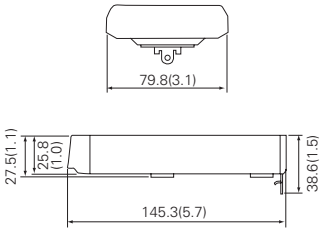
24 V AC



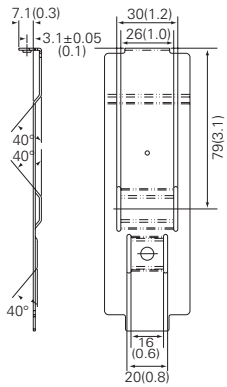
Adaptor Bracket
VA-80AB



HDD Case
VA-HDC4000



HDD Case Bracket
VA-HDK1



High-resolution E-Day/night Network Camera

VCC-N6695P

Shown with optional lens

H.264	JPEG	Minimum illumination 0.25 lx	Multi-spot/ Center-zone BLC	ATW Manual
25 IPS (720 x 576)	Alarm IN x 1 Alarm OUT x 1	24 V AC 12 V to 15 V DC	PoE	

Dual Codec for H.264 and JPEG

Monitoring can be conducted simultaneously in H.264 and JPEG formats by minimizing network traffic.

• H.264 Plug-in software required (bundled).

Electronic Day/Night Function

The E-Day/Night function allows an automatic changeover from color mode to B/W mode. This makes it possible to achieve 24-hour high quality in light and dark conditions.

Image from conventional camera

Image from E-Day/Night camera

High Sensitivity

Sensitivity has significantly increased by about 3dB compared to conventional models. A newly-developed CCD sensor partners with SANYO's advanced technologies to enable the camera to clearly capture objects even in dark conditions.

E-mail Function

A setting for automatic sending of mail (up to 5 addresses can be set) is provided. By using this setting, an alarm notification e-mail can be set when an alarm is detected. Or, e-mails can be sent at regular intervals. In either case, an image can be attached to the e-mail.

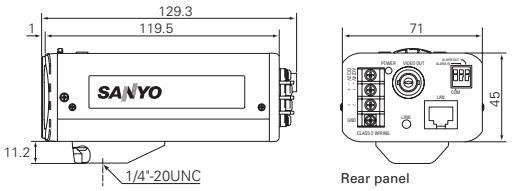
Power-over-Ethernet (PoE)

VCC-N6695P supports the IEEE 802.3af standard for Power-over-Ethernet (PoE) applications to allow power supplied over LAN cabling. In addition to making installation easier, this allows camera installation in places where it would otherwise be difficult to secure a power source.

Optional (sold separately) See page 15, 16 for details.

Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)
Network Recorder
VA-SW3050S (for server) / VA-SW3050C (for client)

VCC-N6695P



(Unit: mm)

Model		VCC-N6695P
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		540 TV lines (typical)
Minimum illumination (approx.)	50IRE	0.35 lx (at F1.2, at color mode), 0.25 lx (at F1.2, GAIN on, at B/W mode)
	20IRE	0.14 lx (at F1.2, at color mode), 0.1 lx (at F1.2, GAIN on, at B/W mode)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 50 dB (AGC OFF)
Backlight compensation		ON / OFF — Slide SW (side) / IE menu ON = Multi-spot photometry [2-mode (Normal/High)] / Center-zone photometry system — Slide SW (side) (activated when auto iris lens is used)
Day/Night		ON/OFF – SW (ON: Electronic-Day/Night / OFF: Color)
White-balance		ATW (Auto) / MWB (Manual) — Slide SW (side) IE menu MWB: Adjustable R & B-Gain
Motion detector		Detect / Mask / OFF, - IE menu
Light control		Optical auto iris lens / Electronic iris (indoor use)
Lens mount		CS mount (C mount: using C-mount adaptor supplied)
Flange back		12.5 mm ±0.5 mm adjustment
Auto iris lens		DC type (Variable DC level)
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -) — Slide SW (side) / IE menu
Lens iris level		LEVEL: L to H —— VR (side)
Aperture correction		High/Normal — Slide SW (side) / IE menu
Electronic iris range		0.35 to 50,000 lx (with F1.2 lens) at Color 0.25 to 50,000 lx (with F1.2 lens) at B/W
Alarm		Input (1) / Output (1), NO / NC switch - IE menu
Synchronizing system		Internal sync
Sockets	Video signal	VIDEO OUT —— BNC (rear)
	Auto iris lens	LENS —— 4-pin (side)
	Power supply	24 V AC, GND —— 3-pin terminal (rear) 12 V DC, GND —— 2-pin terminal (rear)
	LAN	RJ45
	Alarm	3-pin terminal (rear)
Operating conditions	Operating	Temperature: –10°C to 50°C (14°F to 122°F), Humidity: within 90% RH
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F], Humidity: within 70% RH
Power requirement		24V AC, 50 Hz / 12 to 15V DC / PoE (compliant with IEEE 802.3af)
Power consumption (approx.)		7.1 W
Camera mount		1/4"–20 UNC (top / bottom selectable)
Dimensions (approx.)		71(W) x 45(H) x 120.5(D) mm [2.8(W) x 1.8(H) x 4.7(D) in.]
Weight (approx.)		350g (12.3 oz.) (without lens)

NOTE: Specifications subject to change without notice

Network Specifications

Model		VCC-N6695P
Image compression		H.264 / JPEG
Resolution	H.264	720 x 576, 352 x 288, 176 x 144
	JPEG	720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144
Picture quality		5 levels
Frame rate	H.264	Max. 25 IPS (720 x 576)
	JPEG	Max. 25 IPS (720 x 576)
Bandwidth		128, 256, 512 Kbps, 1,2,3,4 Mbps, no limitation
Alarm buffer		Up to 8 MB; configurable
Interface		10BASE-T/100BASE-TX, PoE (IEEE802.3af) compatible
Protocols		TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS
Simultaneous access capacity		Image: Maximum 16 (admin: 1)
Security		BASIC authentication (ID/password), SSL supported (image only)
Accessories		CD-ROM (VA-SW3050LITE, Plug-in software, Manual)

High-resolution Weatherproof AF Zoom Network Camera

VCC-XZN600P

H.264 | JPEG | Minimum illumination 0.04 lx | Multi-spot/ Center-zone BLC | ATW AWC Manual

25 IPS (720 x 576) | Alarm IN x 2 Alarm OUT x 1 | 24 V AC 12 V to 15 V DC | PoE | Image Stabilizer

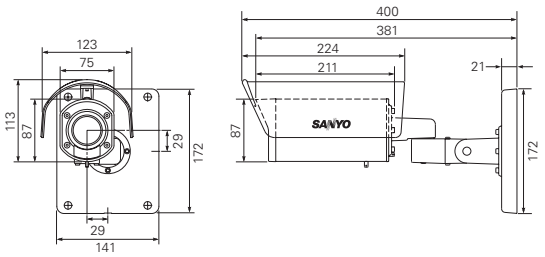
High-resolution AF Zoom Network Camera

VCC-ZMN600P

H.264 | JPEG | Minimum illumination 0.04 lx | Multi-spot/ Center-zone BLC | ATW AWC Manual

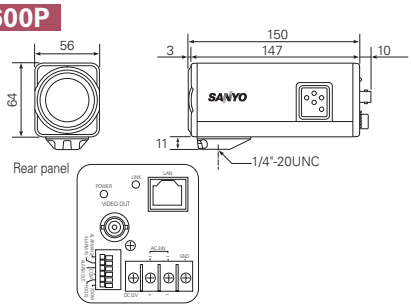
25 IPS (720 x 576) | Alarm IN x 2 Alarm OUT x 1 | 24 V AC 12 V to 15 V DC | PoE | Image Stabilizer

VCC-XZN600P



(Unit: mm)

VCC-ZMN600P



(Unit: mm)

Model	VCC-XZN600P	VCC-ZMN600P
Scanning system	PAL standard 625 lines, 50 fields/sec.	
Image sensor	1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements	Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution	540 TV lines (typical)	
Minimum illumination (approx.) 50IRE	0.8 lx (at F1.4, GAIN: HIGH, color mode), 0.04 lx (at F1.4, GAIN: HIGH, B/W mode)	
Minimum illumination (approx.) 20IRE	0.32 lx (at F1.4, GAIN: HIGH, color mode), 0.016 lx (at F1.4, GAIN: HIGH, B/W mode)	
Electronic sensitivity boost	AUTO (interlocked with auto iris), up to 32x / OFF	
Video output level	1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio	More than 50 dB (AGC OFF)	
Backlight compensation	ON / OFF, ON = Multi-spot photometry / Center-zone photometry / Multi-spot masking	
Day/Night	Color / BW switching function (color mode) Color / BW settings (3-level adjustment) and burst off/on setting function (B/W mode) can be used via alarm input	
White-balance	ATW / AWC / Manual / Outdoor / Indoor / Fluorescent / R/B adjustment possible when using MWB	
Gain control	ON (Low / Normal / Middle / High) / OFF (Gain adjustment possible)	
Motion detector	ON (individual setting possible) / OFF, Motion zoom function (individual setting possible)	
Privacy masking	ON / OFF, max. of 4 masked locations (Wide view screen)	
Electronic shutter	High-speed mode:1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. Low-speed mode: 1/25, 1/12, 1/6, 1/5, 1/1.5	
Lens	f = 3.5 to 105mm F1.4 to 3.7 auto focus	
Synchronizing system	Internal sync. / Line lock	
View Angle Horizontal	56 to 2.0°	
View Angle Vertical	43 to 1.5°	
View Angle Diagonal	68 to 2.5°	
V phase adjustment	LINE PHASE	
Optical zoom	30x	
Electronic zoom	16x	
Alarm input	External inputs: 2, NO / NC switch, Day/night switch	
Alarm output	External outputs: 1, NO / NC switch, open corrector	
Mirroring function	OFF / HV / H / V	
Environmental conditions	Temperature: -10°C to 50°C [+14°F to 122°F], Humidity: within 35 to 90% RH	
Power requirement	24 V AC ± 10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)	
Power consumption (approx.)	7.3 W	
Dimensions (approx.)	141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]	56(W) x 64(H) x 150(D) mm [2.2(W) x 2.5(H) x 5.9(D) in.]
Weight (approx.)	1.82 kg [64.2 oz.]	600 g [21.2 oz.]

Network Specifications

Image compression	H.264 / JPEG
Resolution H.264	720 x 576, 352 x 288, 176 x 144
Resolution JPEG	720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144
Picture quality	5 levels
Frame rate H.264	Max. 25 IPS (720 x 576)
Frame rate JPEG	Max. 25 IPS (720 x 576)
Bandwidth	128, 256, 512 Kbps, 1,2,3,4 Mbps, no limitation
Alarm buffer	Up to 8 MB; configurable
Interface	10BASE-T/100BASE-TX (RJ45 connector)
Protocols	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS
Simultaneous access capacity	Maximum 16 (admin: 1)
Security	BASIC authentication (ID/password), SSL supported (image only)
System requirements	PC IE: CPU: Pentium® 4, 2.0 GHz or higher, Memory: 512 MB, SW3050: CPU 3.0 GHz, Memory: 1 GB or more, Recommended graphics chip: GEFORCE6000 series or higher, OS: Windows® XP
Accessories	CD-ROM (VA-SW3050LITE, Plug-in software, Manual)

NOTE: Specifications subject to change without notice

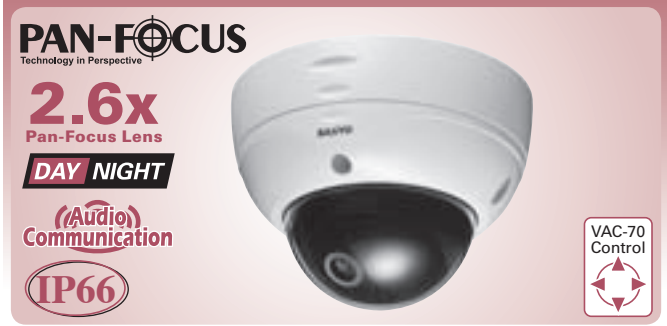
Optional (sold separately)

See page 15, 16, 37 for details.

Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)
Network Recorder VA-SW3050S (for server) / VA-SW3050C (for client)
Camera Control Unit VAC-70

High-resolution Vandal-resistant PTZ Network Dome Camera

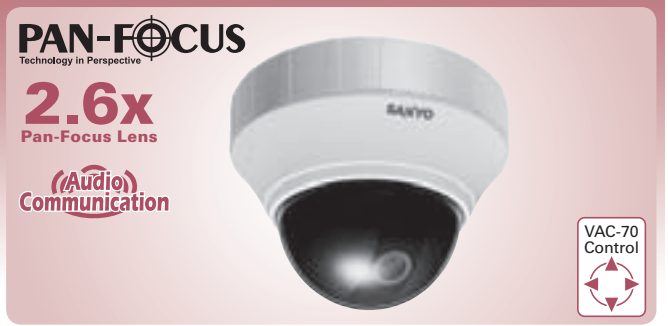
VDC-DPN9585P



JPEG	Minimum illumination 0.06 lx	Multi-spot/ Center-zone BLC	PT mechanism	720x286,640x480 360x286,176x143
25 IPS (720 x 286)	Alarm IN x 2 Alarm OUT x 1	24 V AC 12 V to 15 V DC	PoE	

High-resolution Indoor mini PTZ Network Dome Camera

VCC-PN9575P



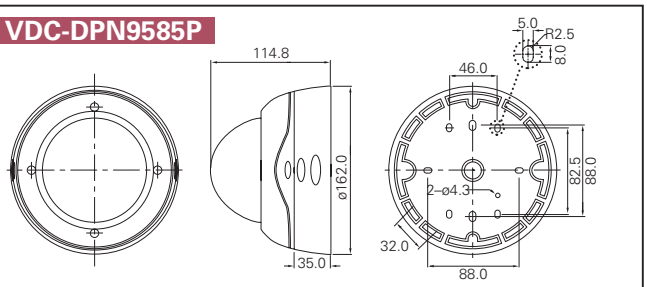
JPEG	Minimum illumination 1.9 lx	Multi-spot/ Center-zone BLC	PT mechanism	720x286,640x480 360x286,176x143
25 IPS (720 x 286)	Alarm IN x 2 Alarm OUT x 1	24 V AC 12 V to 15 V DC	PoE	

Optional (sold separately) See page 15, 16, 37, 38 for details.

Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)

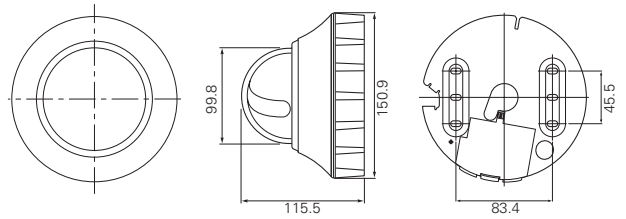
Network Recorder VA-SW3050S (for server) / VA-SW3050C (for client)
Camera Control Unit VAC-70

VDC-DPN9585P



(Unit: mm)

VCC-PN9575P



(Unit: mm)

Model		VDC-DPN9585P	VCC-PN9575P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		520 TV lines (Analog video signal)	
Minimum illumination (approx.)	50IRE	0.06 lx at max. AGC, with F1.9 lens, B/W mode 1.2 lx at max. AGC, with F1.9 lens, Color mode	1.9 lx at max. AGC, with F1.9 lens, Color mode
	20IRE	0.024 lx at max. AGC, with F1.9 lens, B/W mode 0.48 lx at max. AGC, with F1.9 lens, Color mode	0.76 lx at max. AGC, with F1.9 lens, Color mode
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF, ON = Multi-spot photometry (64-section) / Center-zone photometry	
Day/Night		Auto (High/Low) / Color / B/W	———
White-balance		ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)	
Gain control		High / Normal / OFF	
Motion detector		ON / OFF, Motion zoom function	
Privacy masking		ON / OFF 8 masking	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens		Built-in 2.6x motorized zoom pan-focus auto iris lens, f = 2.8 to 7.3mm (2.6x), F1.9 to 3.0	
Depth of field		Focus range: 1 m to ∞	
Synchronizing system		Internal sync. / Line lock	
Aperture		HIGH PLUS / HIGH / NORMAL / OFF	
Auto mode		Sequential pan / Auto pan	
Rotation range	Ceiling	Panning: max. 0 to 335 deg, Tilting: 0 to 90 deg.	
	Wall	Panning: ±55 deg, Tilting: 0 to 90 deg	
Rotation speed	Preset	Panning: max. 120 deg / second (preset)	
	Manual	50 to 100 deg / second (preset)	
Preset position setting		16	
Communications		Simplified controller (VAC-70: separately ordered) supported	
Audio compression method		G. 711(192 Kbps), full duplex	
Microphone input		-62 to -32 dB (monaural microphone) 3.5mm mini jack	
Alarm input		External x 2, NO / NC selectable, Alarm preset function, Alarm zoom function	
Alarm output		External x 1, NO / NC selectable	
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F], -30°C to 50°C [-22°F to 122°F] When heater (VA-50H: option board) is used with power source connected Humidity: within 90% RH	Temperature: -10°C to 40°C [+14°F to 104°F] Humidity: within 90% RH
Power requirement		24 V AC ±10%, 50 Hz / 12 V to 15 V DC / PoE (compliant with IEEE 802.3af)	
Power consumption (approx.)		10 W Max. 15.5 W When heater (VA-50H: option board) turned on	10 W
Dimensions (approx.)		ø162 x 114.8 mm [ø6.4 x 4.5 in.]	ø150.9 x 115.5 mm [ø6.0 x 4.6 in.]
Weight (approx.)		1.5 kg [52.9 oz.]	650g [22.9 oz.]

NOTE: Specifications subject to change without notice

Model		VDC-DPN9585P	VCC-PN9575P
Image compression		JPEG	
Resolution		720 x 286, 640 x 480 (disabled during voice communications), 360 x 286, 180 x 143	
Picture quality		5 levels	
Frame rate		Max. 25 IPS (720 x 286)	
Audio compression method		G.711 (192 Kbps), full duplex	
Micro-phone	Input / External	-62 to -32 dB (monaural microphone) 3.5mm mini jack	
	Internal	———	Internal or external selected
Audio output		LINE OUT monaural audio output, maximum -8 dB, 3.5mm mini jack	

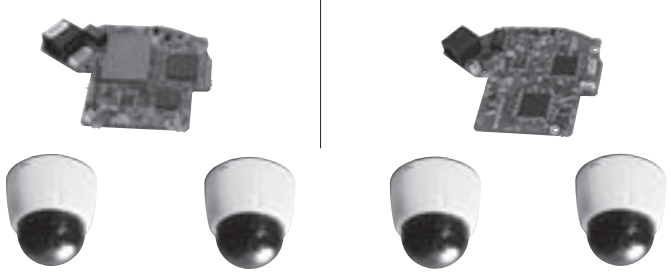
Model	VDC-DPN9585P	VCC-PN9575P
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation	
Alarm buffer	Up to 8 MB; configurable	
Interface	10BASE-T/100BASE-TX (RJ45 connector)	
PoE support	Compliant with IEEE 802.3af	
Protocols	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	
Simultaneous access capacity	Image: Maximum 16, Voice: Maximum 16 (admin: 1)	
Security	BASIC authentication (ID/password), SSL supported (image only)	
Bundled software	VA-SW3050LITE	

Network Board

The built-in network interface and the expansion board for network connection enables SANYO color CCD cameras to connect to a network.
The user can operate a network connected camera using a web browser (Internet Explorer) and network surveillance software.

Cameras that support the expansion boards

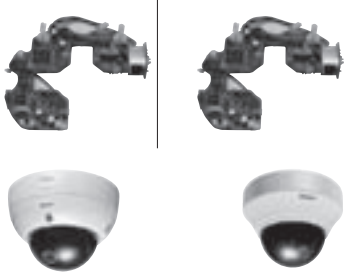
VA-82LAN



VCC-9800P E　VCC-9700P E　VCC-9600P E　VCC-9500P E

See page 19, 20 for details

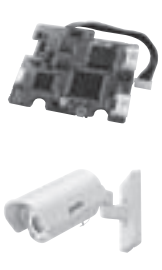
VA-51LAN / VA-50LAN



VDC-DP7585P　VCC-P7575PA

See page 25 for details

VA-20LAN



VCC-XZ200P

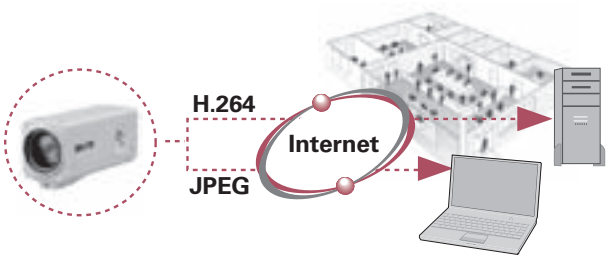
See page 26 for details

Category	H.264 / JPEG	JPEG		
Model No.	Network Board VA-82LAN (sold separately)	Network Board VA-51LAN (sold separately)	Network Board VA-50LAN (sold separately)	Network Board VA-20LAN (sold separately)
Applicable models	VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E	VDC-DP7585P / VCC-P7575PA		VCC-XZ200P
Image compression	H.264/JPEG (simultaneous transmission available)	JPEG		
Resolution	<H.264> 720 x 576, 352 x 288, 176 x 144 <JPEG> 720 x 576, 720 x 288, 640 x 480, 360 x 288, 176 x 144	<JPEG> 720 x 286, 640 x 480, 360 x 286, 180 x 143		
Picture quality	Super Fine, Fine, Enhanced, Normal, Basic			
Frame Rate	Max.25IPS (720 x 576)	Max.25IPS (720 x 286)		
Microphone input	–62 to –32 dB (monaural microphone) 3.5 ø mini jack		----------	
Audio output	LINE OUT monaural voice output Maximum -8 dBs 3.5 ø mini jack		----------	
Bandwidth	128, 256, 512 Kbps, 1, 2, 3, 4 Mbps, no limitation			
PoE (Power over Ethernet)	----------	Compliant with IEEE802.3af	----------	
Audio	Bi-directional audio G.711 (192 Kbps) 16 bit 12 KHz		----------	
DDNS	•			
Alarm buffer	8 MB			
Interface	10BASE-T / 100BASE-TX (RJ-45 connector)			
Protocols	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS			
Simultaneous access capacity	Image: Max. 16, Voice: Max. 16 (admin: 1)		Image: Max. 16	
Security	BASIC authentication (ID/password), SSL supported (image only)			
Bundled software	VA-SW3050LITE			

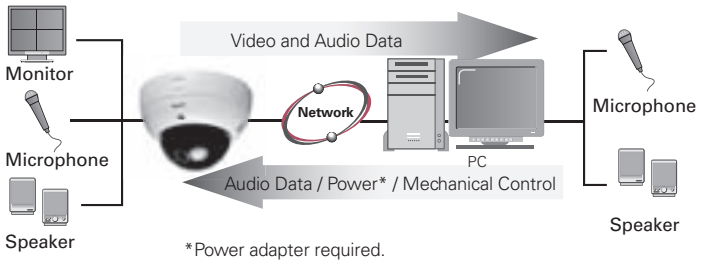
*Available for CGI commend only

The two Independent CODECS of H.264 and JPEG

The H.264, which optimizes the network video streams at a low transfer rate, is ideal for monitoring real-time video images. On the other hand, the commonly used JPEG format is suitable for monitoring and recording without losing quality. The presence of two codecs gives the user the option to choose whichever is suitable to obtain optimum picture quality in any given environment. This ensures that critical information will not be overlooked.



Surveillance-Point Monitoring with Video and Audio Data



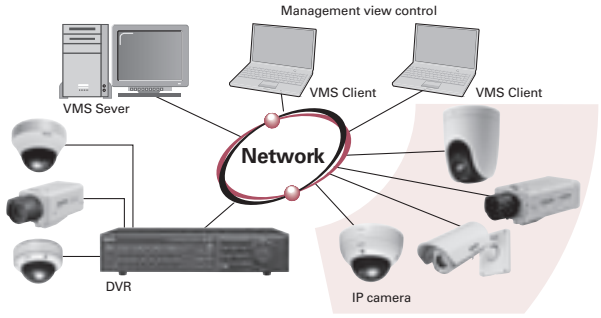
*Power adapter required.

Bidirectional audio communication and remote camera control make it possible to monitor any place regardless of local conditions. Monitoring the ambient sound adds a new dimension to the surveillance.
* Except for VA-50LAN / VA-20LAN.

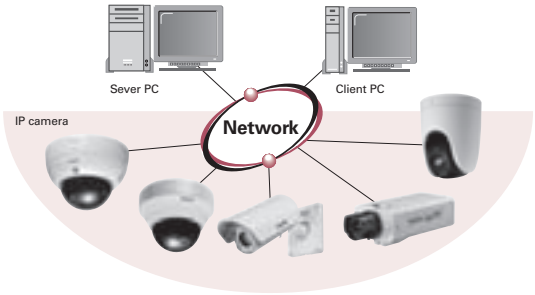
Network Software

SANYO's network software is available in the forms of VMS, VA-SW3050S or VA-SW3050C, depending on the scale of the surveillance system. For a large-scale surveillance system for a hospital or bank to a smaller system for a school or store, you will find the right software package with SANYO.

Video Management Software (VMS)



Network Recorder VA-SW3050S / VA-SW3050C



Video Management Software Supports the Following SANYO Devices

Camera	Expansion Board
VCC-HD5600P / VCC-HD5400P VCC-HD4600P / VDC-HD3500P VDC-HD3300P / VDC-HD3100P VCC-HD2500P / VCC-HD2300P VCC-HD2100P / VCC-HD4000P VCC-N6695P / VCC-XZN600P VCC-ZMN600P VDC-DPN9585P VCC-PN9575P	———
VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E	+ VA-82LAN
VDC-DP7585P / VCC-P7575PA	+ VA-50LAN or VA-51LAN
VCC-XZ200P	+ VA-20LAN
DVR	
DSR-5709P / DSR-5716P	

Network Recorder Software Supports the Following SANYO Devices

Camera	Expansion Board
VCC-HD5600P / VCC-HD5400P VCC-HD4600P / VDC-HD3500P VDC-HD3300P / VDC-HD3100P VCC-HD2500P / VCC-HD2300P VCC-HD2100P / VCC-HD4000P VCC-N6695P / VCC-XZN600P VCC-ZMN600P VDC-DPN9585P VCC-PN9575P	———
VCC-9800P E / VCC-9700P E VCC-9600P E / VCC-9500P E	+ VA-82LAN
VDC-DP7585P / VCC-P7575PA	+ VA-50LAN or VA-51LAN
VCC-XZ200P	+ VA-20LAN

SANYO Video Management Software (VMS) VA-SW50 (Advanced) / VA-SW60 (Enterprise)

SANYO Video Management Software is a software management platform for SANYO's IP and megapixel cameras, most of the industry's standard IP and megapixel cameras and encorders, and SANYO's embedded DVRs. Video Management Software is an NVR, PC DVR and embedded DVR control platform with total integration all under one software application.

Video Management Software (VMS) VA-SW50 (Advanced Edition) / VA-SW60 (Enterprise Edition)

VA-SW50 (Advanced Edition)
Up to 16 camera connection, control, recording, and management of SANYO IP cameras, and other brands standard IP cameras. [Maximum: 5 clients]

VA-SW60 (Enterprise Edition)
Unlimited camera connection, control, recording, and management of SANYO's DVRs*, SANYO IP cameras, other brands standard IP cameras, and other brands megapixel cameras. [Unlimited clients]

Feature Comparison

Versions	Advanced Edition	Enterprise Edition
Model No.	**VA-SW50**	**VA-SW60**
Number of cameras supported	16	unlimited
Number of Clients	5	unlimited
Camera Control	•	•
Video Recording	•	•
Playback	•	•
Video Search	•	•
Download from PC	•	•
SANYO DVR Connection	—	•

Minimum System Requirements (for VMS server)

PC	IBM PC/AT and compatibles	
OS	Windows® XP Professional SP2/SP3, Windows® Vista, Windows® Server 2003, Windows® Server 2008	
CPU	Intel Pentium IV, 3.0 GHz	Core2Duo 3.16 GHz or higher
Memory	512 MB or more	1.5 GB or more
Network Interface	100 BASE-TX	1000 BASE-Tx

VA-SW50 (Advanced Edition) / VA-SW60 (Enterprise Edition) Features

Easy-to-navigate GUI with:
- •File tree architecture •Multi-screen configurations
- •Drag and Drop camera placement •Easy tool bar for major functions •Motion Detection •Digital Pan, Tilt, Zoom

Multifunctional file tree:
- •Define IP cameras / IP video encoders •Define cameras connected to DVRs* •Define whether cameras are live view as well as archived •Define remote servers •Drag and drop any camera on the tree to the viewing screen •Archives can also be accessed directly
- •Allows PTZ Control of Network PTZ Camera
- •Supports SANYO's PTZs through connected DVRs*
- •Permissions can be assigned at the individual, group, and server levels
- •Time Date Search is easily accomplished through a scalable scroll bar
- •Provides user-friendly wizards and comprehensive user management
- •Supports from one to an unlimited number of cameras per server (edition dependent)
- •Multiple clients can be connected to a single server
- •Client can be connected to multiple servers
- •Audio Recording & Playback

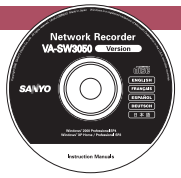
*Please contact your dealer for supported DVRs.

"Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries. All other trademarks are the property of their respective owners.

Note: •Specifications and product design are subject to change without notice.
•Screen images are simulated

Network Recorder VA-SW3050S / VA-SW3050C

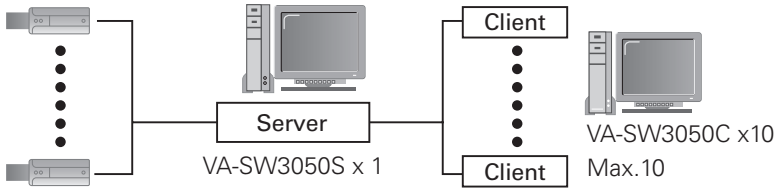
Surveillance via network is possible from a PC by installing VA-SW3050S (for server) or VA-SW3050C (for client). Recordings are made in JPEG format and managed exclusively by VA-SW3050S (for the server).



Network Recorder VA-SW3050S / VA-SW3050C (sold separately)

The network recorder VA-SW3050S / VA-SW3050C is an application program that extends the network operation of the camera. By installing this software, it is possible to monitor images from multiple cameras on a split screen and access and operate up to 128 cameras over a network.

VA-SW3050S further offers the convenience of recording live images and alarm/timer functions. The VA-SW3050C allows the user to play videos recorded with the VA-SW3050S. It is an exclusive software package for cameras .



(NOTE) One software package is necessary for each PC.

VA-SW3050S (for server) / VA-SW3050C (for client) Features & VA-SW3050LITE (Bundled) for Viewing

- Accessible to up to 128 cameras.
- Up to ten users can be registered for each computer, and the operational authorization level can be set differently for each camera.
- There are a variety of other optional functions to facilitate monitoring operation. (VA-SW3050LITE / VA-SW3050C)
- Can split the display into one, four, nine or sixteen screens. (VA-SW3050LITE / VA-SW3050C)
- Image searching function can search through recorded images for a playback. (VA-SW3050C)
- Images on the monitoring display can be printed and saved. (VA-SW3050C)
- Changes camera settings, and controls cameras remotely. (VA-SW3050LITE / VA-SW3050C)
- Recording can be set to start automatically by timer or by alarm. (VA-SW3050S)

VA-SW3050S / VA-SW3050C / VA-SW3050LITE (Bundled) Feature Comparison

		Bundled	Sold separately	
	Internet Explorer	VA-SW3050 LITE	VA-SW3050S	VA-SW3050C
		LITE	Server	Client
Number of cameras supported	Only 1	Max. 128		
Search camera	—	•	•	—
Live monitor	•	•	—	•
Multi-screen display	—	• (4, 9, 16)	—	• (4, 9, 16)
Camera Control PTZ, etc.	•	•	—	•
Camera Control Menu	•	•	•	•
Video recording	—	—	•	—
Playback	—	—	—	•
Video search	—	—	—	•
Backup	—	—	•	—
Download	—	—	—	• (Download from Server)
Print	—	•	—	•

System Requirements (for VA-SW3050S / VA-SW3050C / VA-SW3050LITE)

PC	IBM PC/AT and compatibles			
OS	Windows® XP Professional SP2, Windows® Vista,Windows® 2003 Server SP2 (VA-SW3050S only)			
CPU	Core2Duo E6700, 2.66GHz or higher	Core2Duo E6700, 2.66GHz or higher*1 Core2Duo E8500, 3.16GHz or higher*2	Pentium IV, 3.0GHz or higher	Core2Duo E6700, 2.66GHz or higher*1 Core2Duo E8500, 3.16GHz or higher*2
Memory	1GB (Windows® XP) 2GB (Windows® Vista)	1GB (Windows® XP) 2GB (Windows® Vista)*1 2GB or more	1GB or more	1GB (Windows® XP) 2GB (Windows® Vista)*1 2GB or more
Network interface	100BASE-TX			
Display card	1920 x 1200 pixels or higher		1024 x 768 pixels or higher, 16milion colors or higher	1920 x 1200 pixels or higher
Graphics chip	ATI: Radeon X1000 series or higher nVidia: GeForce 6000 series or higher Quadro4 series or higher			
Audio	—	Sound card with 100% Direct-X compatibility and speakers*3	—	Sound card with 100% Direct-X compatibility and speakers*3

*1 When the number of cameras connected is 4 or fewer
*2 When the number of cameras connected is between 5 and 16
*3 The camera main unit is not equipped with audio functions.
•Ver. 6.0 or higher
•For Full-HD display
•CD-Drive is required

Note: Depending on your computer's performance or network environment, the system may enter the busy state if the PC is connected to many H.264 video channels. If a warning message appears in the dialog box, decrease the number of the connected H.264 video channels.

Camera

A Comprehensive Line-up of Multi-functional High Resolution Cameras Solves a Variety of Surveillance Needs

36x Optical Zoom

36x Optical Zoom

Indicates the magnification factor of optical zooming. A higher figure represents a greater magnification, enabling users to take a closer look at the surveillance subject .

550 TV Lines

Horizontal Resolution

All cameras from SANYO offer exceptional picture resolution.

PAN-FOCUS Technology in Perspective

Pan-focus lens can bring a broad area into focus, enabling the camera system to visualize everything in the field of view clearly at the same time. The lens also has a 2.6x zooming function. As a result, it allows a surveillance camera to capture a clear video image offering details of background objects.

DAY NIGHT

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night.

E-DAY NIGHT Electronic Day/Night function

Day/Night Electronic

A newly developed electronic Day/Night vision. By switching between color and B&W modes, it adapts to changes in illumination to capture clear picture throughout the day. It is capable of capturing images in the dark.

Auto Tracking

Auto Tracking

The camera comes with an image processing algorithm that is capable of detecting moving objects on the screen and tracing an object automatically. When there are multiple movements, an object with the biggest move will be traced. Further settings are available according to the pattern of movement. The auto return mode provides an added feature that forces the camera to its Preset Position when no movement is detected for a preset duration.

WDR Wide Dynamic range

Wide dynamic range for clear images of high-contrast subjects

With the newly developed wide-dynamic-range technology, however, two shutter speeds, one normal (1/50) and the other high speed, are employed to record clearer images of the subject by extracting highlights and shadows from the two shots and then combining them into a single detailed image.

Image Stabilizer

Image Stabilizer

A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near a highway with heavy traffic .

SSP Pelco-C/D Support

SSP (RS-485) compatible

By using SSP (SANYO Security Serial Protocol), cameras and DVRs can be controlled with just one controller over a daisy chain connection up to a maximum of 254 devices. The maximum cable length (total length of the daisy chain path) is 1200 m (4000 feet).

65dB AIP Engine

65dB Super Dynamic Range

The SANYO Advanced Image Processing Engine promises a ultra wide dynamic range for super performance.

24 V AC 12 to 15 V DC | 24 V AC or 230 V

Power Sources

The power sources for driving the camera.

Category		Speed Dome				Weatherproof Zoom		Zoom		Dome
Serial No.		VCC-9800P E	VCC-9700P E	VCC-9600P E	VCC-9500P E	VCC-XZ600P	VCC-XZ200P	VCC-ZM600P	VCC-ZM500P	VDC-DP7585P
Lens		36x AF Zoom lens	36x AF Zoom lens	30x AF Zoom lens	30x AF Zoom lens	30x AF Zoom lens	2.6x Pan-Focus lens	30x AF Zoom lens	30x AF Zoom lens	2.6x Pan-Focus lens
	f (mm)	3.4 to 122.4	3.4 to 122.4	3.5 to 105.0	3.5 to 105.0	3.5 to 105	2.8 to 7.3	3.5 to 105	3.5 to 105	2.8 to 7.3
Color or D/N		Day/Night	Color	Day/Night	Color	Day/Night	Day/Night	Day/Night	Color	Day/Night
Sensor		1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Horizontal resolution		540 TVL	540 TVL	540 TVL	540 TVL	540 TVL	520 TVL	540 TVL	540 TVL	520 TVL
Minimum illumination	50IRE	Color 1.0 lx B/W 0.05 lx	1.0 lx	Color 0.8 lx B/W 0.04 lx	0.8 lx	Color 0.8 lx B/W 0.04 lx	Color 1.2 lx B/W 0.06 lx	Color 0.8 lx B/W 0.04 lx	Color 0.8 lx	Color 1.2 lx B/W 0.06 lx
	20IRE	Color 0.4 lx B/W 0.02 lx	0.4 lx	Color 0.32 lx B/W 0.016 lx	0.32 lx	Color 0.32 lx B/W 0.016 lx	Color 0.48 lx B/W 0.024 lx	Color 0.32 lx B/W 0.016 lx	Color 0.32 lx	Color 0.48 lx B/W 0.024 lx
	F	F1.6	F1.6	F1.4	F1.4	F1.4	F1.9	F1.4	F1.4	F1.9
Backlight compensation		Multi-spot 5-section	Multi-spot 5-section	Multi-spot 5-section	Multi-spot 5-section	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone
White-balance		ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW / AWC Indoor / Outdoor Fluorescent / Manual
Sync		Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock
Power supply		24 V AC or 230 V AC	24 V AC or 230 V AC	24 V AC or 230 V AC	24 V AC or 230 V AC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC
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Category		Dome	Advanced WDR						
Serial No.		VCC-P7575PA	VDC-WD9885VP	VCC-W9875VP	VCC-WD8875P	VCC-WD8870P	VCC-W8775P	VCC-W8770P	VDC-W1595VP
Lens		2.6x Pan-Focus lens	3.8x Vari-focal lens	3.8x Vari-focal lens	CS mount	CS mount	CS mount	CS mount	2.3x Vari-focal lens
	f (mm)	2.8 to 7.3	2.8 to 10.5	2.8 to 10.5	—	—	—	—	2.6 to 6.0
Color or D/N		Color	Day/Night	Color	Day/Night	Day/Night	Color	Color	Color
Sensor		1/4"	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"
Horizontal resolution		520 TVL	550 TVL	550 TVL	550 TVL	550 TVL	550 TVL	550 TVL	480 TVL
Minimum illumination	50IRE	1.9 lx	Color 0.8 lx B/W 0.08 lx	0.8 lx	Color 0.8 lx B/W 0.08 lx	Color 0.8 lx B/W 0.08 lx	0.8 lx	0.8 lx	1.0 lx
	20IRE	0.76 lx	Color 0.32 lx B/W 0.032 lx	0.32 lx	Color 0.32 lx B/W 0.032 lx	Color 0.32 lx B/W 0.032 lx	0.32 lx	0.32 lx	0.4 lx
	F	F1.9	F1.2	F1.2	F1.2	F1.2	F1.2	F1.2	F1.4
Backlight compensation		Multi-spot Center-zone	Wide Dynamic Range	Wide Dynamic Range	Wide Dynamic Range	Wide Dynamic Range	Wide Dynamic Range	Wide Dynamic Range	Wide Dynamic Range
White-balance		ATW / AWC Indoor / Outdoor Fluorescent / Manual	ATW AWC MWB	ATW AWC MWB	ATW Manual	ATW Manual	ATW Manual	ATW Manual	ATW ATW-A
Sync		Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock (AC 24 V user)
Power supply		24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC	24 V AC ±10% 12 V to 15 V DC
Page		25	28	28	29	29	30	30	30

Category		Vandal-resistant				CS-mount				
Serial No.		VDC-D1785IRVP	VDC-D1585VP	VDC-C1575VP	VCC-9785VP	VCC-5995P	VCC-6695P	VCC-6690P	VCC-4795P E	VCC-4790P E
Lens		3.2x Vari-focal IR lens	2.3X Vari-focal lens	2.3X Vari-focal lens	3.6x Vari-focal lens	CS mount	CS mount	CS mount	CS mount	CS mount
	f (mm)	3.7 to 12	2.6 to 6.0	2.6 to 6.0	2.8 to 10.0	—	—	—	—	—
Color or D/N		Day/Night	Day/Night	Color	Color	Color	E-Day/Night	E-Day/Night	Day/Night	Day/Night
Sensor		1/3"	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"	1/3"
Horizontal resolution		540 TVL	520 TVL	520 TVL	540 TVL	540 TVL	540 TVL	540 TVL	540 TVL	540 TVL
Minimum illumination	50IRE	Color 0.7 lx B/W 0.0 lx	Color 1.0 lx B/W 0.05 lx	1.0 lx	0.4 lx	0.5 lx	Color 0.35 lx B/W 0.25 lx	Color 0.35 lx B/W 0.25 lx	Color 0.45 lx B/W 0.01 lx	Color 0.45 lx B/W 0.01 lx
	20IRE	Color 0.3 lx B/W 0.0 lx	Color 0.4 lx B/W 0.02 lx	0.4 lx	0.16 lx	0.2 lx	Color 0.14 lx B/W 0.1 lx	Color 0.14 lx B/W 0.1 lx	Color 0.18 lx B/W 0.004 lx	Color 0.18 lx B/W 0.004 lx
	F	F1.4	F1.4	F1.4	F1.3	F1.2	F1.2	F1.2	F1.2	F1.2
Backlight compensation		ON/OFF	ON / OFF	ON / OFF	ON / OFF	Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone	Multi-spot Center-zone
White-balance		ATW	ATW ATW-A	ATW ATW-A	ATW	ATW	ATW Manual	ATW Manual	ATW Manual	ATW Manual
Sync		Internal sync.	Internal sync. Line lock (AC 24 V user)	Internal sync. Line lock (AC 24 V user)	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock	Internal sync. Line lock
Power supply		24 V AC ±10% 12 V DC ±10%	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V DC ±10%	24 V AC ±10% 12 V to 15 V DC	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC ±10%	24 V AC ±10% 12 V to 15 V DC	220 V to 230 V AC
Page		31	32	32	33	33	34	34	35	35

High-resolution AF Speed Dome Camera

VCC-9800P E series

High-resolution AF Speed Dome Camera

VCC-9700P E series

High-speed Panning of 435°/sec

The camera makes it possible to capture the image of exact points of surveillance with high-speed panning of 435°/sec between preset positions. This accurate mechanism is capable of capturing quickly moving objects and objects approaching the camera when it is zoomed in.

Pan / Tilt speed	Pan	Max. 435°/sec.
	Tilt	Max. 400°/sec.
	Manual pan /tilt	0.1 to 120°/sec.

Preset Accuracy to ±0.014 (typical) of a Degree

In the case of a speed dome camera, the motorized drive's performance is vital in order to capture numerous points of surveillance during lens movement and zoom-ratio changes. SANYO's new series of speed dome cameras keeps the accuracy of the camera's return to preset points to within 0.014 (typical) of a degree for precision capture of images from surveillance.

Designated point set using preset position function

Image from conventional camera with error margin as large as 0.2°

Error margin of designated point is a mere 0.014° (typical)

Auto Tracking

VCC-9800P E / VCC-9700P E

The camera comes with an image processing algorithm that is capable of detecting moving objects on the screen and tracing an object automatically. When there are multiple movements, an object with the biggest move will be traced. Further settings are available according to the pattern of movement. The auto return mode provides an added feature that forces the camera to its Preset Position when no movement is detected for a preset duration.

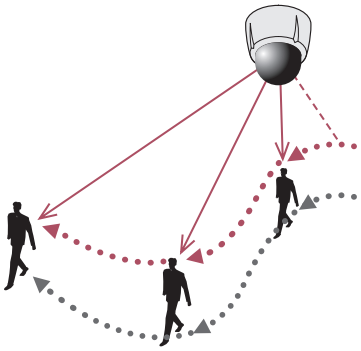
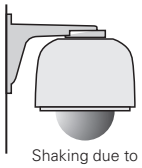
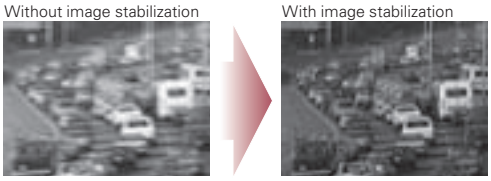


Image Stabilizer

VCC-9800P E / VCC-9700P E

A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near a highway with heavy traffic.


Shaking due to strong wind or traffic vibration



Maximum 576x Zoom Function 36x Optical Zoom and 16x Digital Zoom

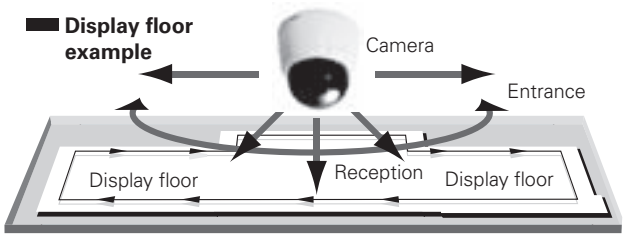
VCC-9800P E / VCC-9700P E

The 36x optical zoom and 16x digital zoom can be combined for a close-up of 576x. This allows even distant subjects to be checked in detail, allowing one camera to monitor a wide area.

Up to 256 Preset Positions

VCC-9800P E / VCC-9700P E

The user can set up to 256 preset positions with VCC-9800P E / VCC-9700P E and up to 128 preset positions with VCC-9600P E / VCC-9500P E. Preset positions can be set to any angle from pointing directly below the camera to looking horizontal. The adjustable range of the lens focus any direction to offer the capability to fully capture any surveillance area. When manually operated, the lens can be moved at the speed of 0.1 °/sec to 120°/sec for accurate tracking of moving objects.



Four Types of Auto Mode Setting

Sequence, Tour, Auto Pan and Auto Return modes are available.

High-resolution AF Speed Dome Camera

VCC-9600P E series

30x Optical Zoom

DAY NIGHT

VAC-70 Control

540 TV Lines	Minimum illumination 0.04 lx	Multi-spot/ 5-section BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC or 230 V		

High-resolution AF Speed Dome Camera

VCC-9500P E series

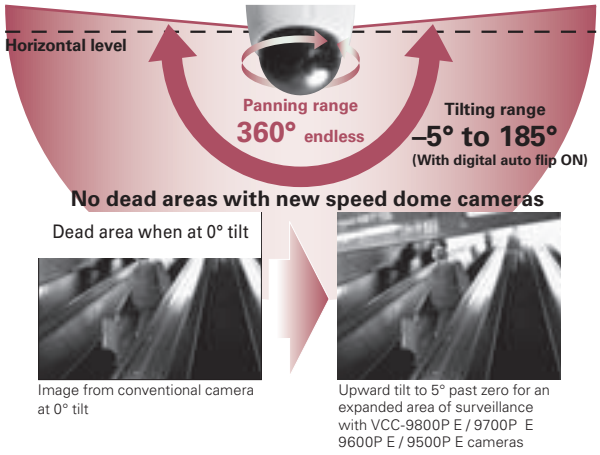
30x Optical Zoom

VAC-70 Control

540 TV Lines	Minimum illumination 0.8 lx	Multi-spot/ 5-section BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC or 230 V		

Upward Surveillance Enabled PTZ Operation

In addition to endless 360°/sec panning, the camera's lens section enables 185°/sec tilting in the vertical plane for an area of surveillance expanded by 5° (indoor applications only) compared to previous models.


Horizontal level
Panning range
360° endless
Tilting range
–5° to 185°
(With digital auto flip ON)
No dead areas with new speed dome cameras
Dead area when at 0° tilt
Image from conventional camera at 0° tilt
Upward tilt to 5° past zero for an expanded area of surveillance with VCC-9800P E / 9700P E 9600P E / 9500P E cameras

Available in Three Forms, Outdoor Type, Surface Type or In ceiling Type

The camera is available in three different styles. Assemble them with different fittings and covers to make a camera most suitable for your surveillance needs.

All around Privacy Masking

When there is a house, or even a window, within the camera frame, to protect other people's privacy it is possible to mask the area so that it will not appear on the monitor screen . Up to 24 rectangular masks of any desired size can be set.

SSP (RS-485) Compatible

By using SSP (SANYO Security Serial Protocol), cameras and DVRs can be controlled with just one controller over a daisy chain connection up to a maximum of 254 devices. The maximum cable length (total length of the daisy chain path) is 1200 m (4000 feet).

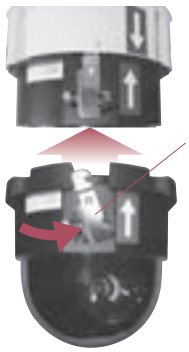
Coaxial Control or RS-485

Coaxial control: SSP / H-SSP / PELCO-C
RS-485: SSP / H-SSP / PELCO-D / PELCO-P / Kalatel / AD / BBV / Ultrack / Bosch

Easy-to-Manage Installation, Setup and Adjustment

Enclosed within the housing are an integrated lens, a motor and a pan/tilt mechanism. Attachment to the power supply base by simply sliding the release levers simplifies installation at the point of surveillance. The settings circuit board is detachable for access to protocol, address and other switch settings.

Detachable without disconnecting power cable

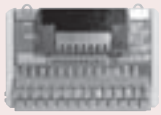


Slide the camera unit's two release levers and lock the power supply base into position. No special tools required for camera unit installation or removal.

Detachable Settings Circuit Board

Basic camera settings can be made while holding the settings circuit board in hand, as the board is detachable from the power supply base. The I/O side of the board features 8 input and 2 output terminals for alarm signals.

Terminal side (Side-A)



Alarm inputs (8)
Alarm outputs (2)
RS-485A/RS-485B

DIP switch side (Side-B)

Address setting
Baud rate setting
RS-485/Coax setting
SSP/Pelco setting
Termination setting

Optional (sold separately)

See page 14, 15, 16, 21, 22, 37, 53, 54 for details.

H.264 / JPEG Network board VA-82LAN (Audio Communication)

This expansion board for network connection enables SANYO VCC-9800P E / VCC-9700P E / VCC-9600P E / VCC-9500P E to connect to a network. The user can operate a network connected camera using a web browser (Internet Explorer).

It comes with the VA-SW3050LITE viewer software.

Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)
Network Recorder
VA-SW3050S (for server) / VA-SW3050C (for client)
Camera Control Unit VAC-70
SSP Control Unit VSP-9000 / VSP-8500 / VSP-3000

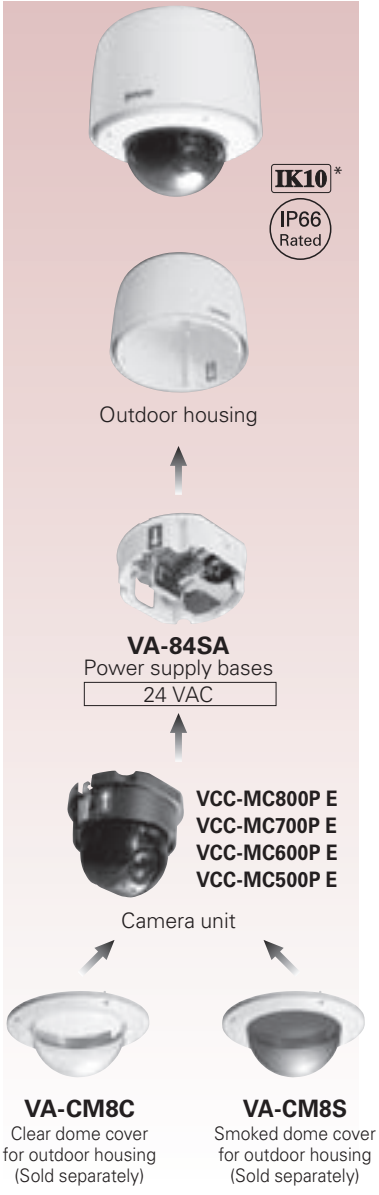
Applications

Available in Three Different Packages

Outdoor, Surface, or In-ceiling — Select a combination that matches your needs!
The combination of camera units and options allows the user to create tailor-made solutions. It also simplifies the installation.

Outdoor type

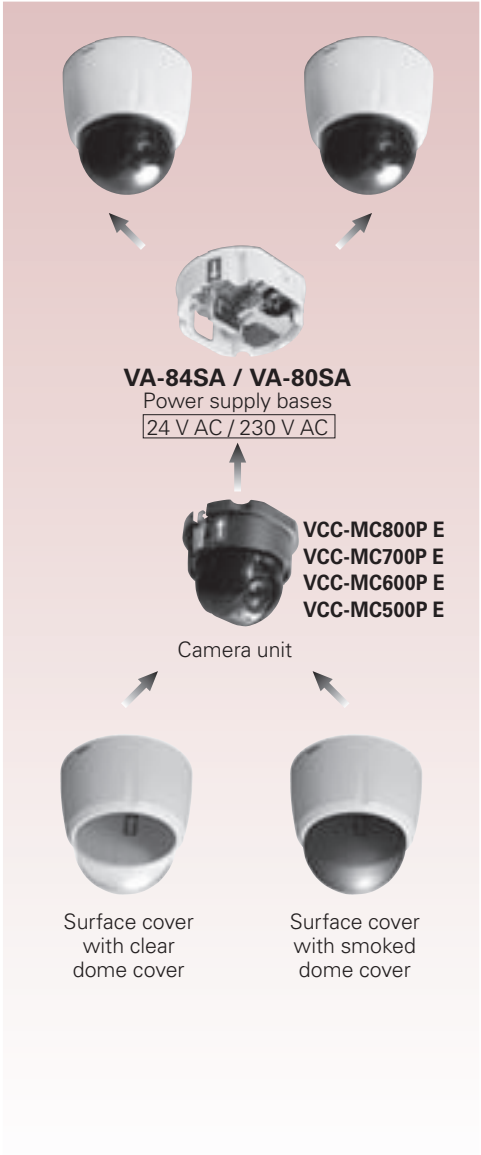
VA-80EX



Indoor type

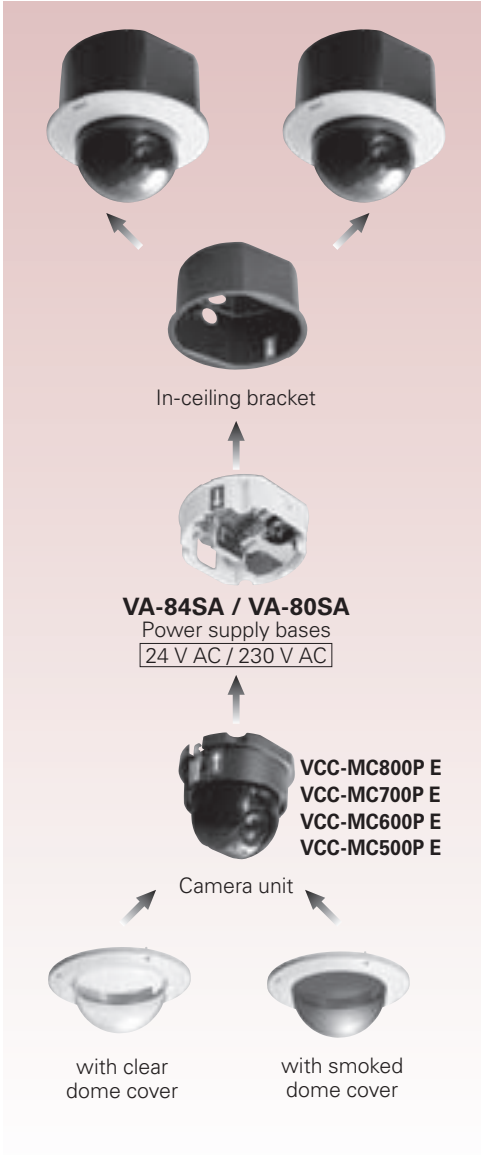
Surface type

VA-80FC **VA-80FS**



In-ceiling type

VA-80MEC **VA-80MES**



*Protection class of an impact for IK10: It supports "a protection class for the mechanical shock" of EN50102 of the European standard.

Model number codes

Model configurations example

Model name	Camera unit	+	Power basement	+	Housing	+	Dome cover
VCC-9800EXCP E	VCC-MC800P E	+	VA-84SA	+	VA-80EX	+	VA-CM8C
VCC-9700INSP E	VCC-MC700P E	+	VA-84SA	+	VA-80FS		

Camera type

- 36x, Day/night 8
- 36x, Color 7
- 30x, Day/night 6
- 30x, Color 5

Housing type

- IN Surface cover
- EM In-ceiling (closed)
- EX Outdoor housing

VCC-9 □□□□□□□P E Enhanced resolution to 540TVL

PAL

Power

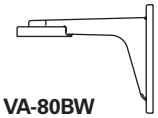
- 230 V AC 30
- 24 V AC 00

Dome cover

- C Clear cover
- S Smoked cover

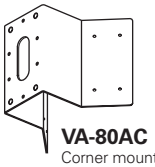
Mounting Brackets Options (Sold separately)

VA-80BP
Pendant mounting bracket (Indoor use)
Use when suspending the camera from a ceiling.

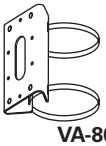


VA-80BW
Wall mounting bracket
Use when installing the camera to a wall.

VA-80A
Attachment (Indoor use)
Use when mounting the camera with VA-80FC/FS on VA-80BP or VA-80BW.



VA-80AC
Corner mounting adaptor
Use with the VA-80BW when installing the camera to a surface such as the corner of a wall.

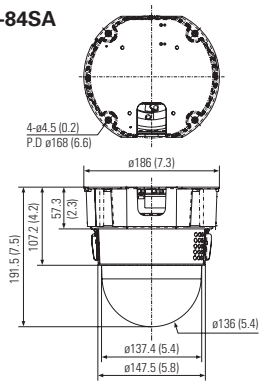


VA-80AP
Pole mounting adaptor
Use with the VA-80BW when installing the camera to a pole.

Dimensions [Unit: mm (inch)]

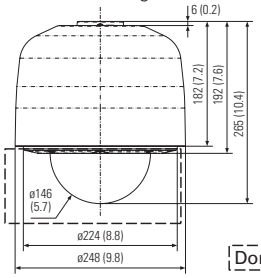
Camera Unit/Power Supply Base

VA-84SA

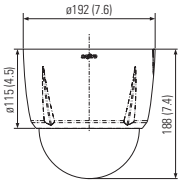


Housings (Sold separately)

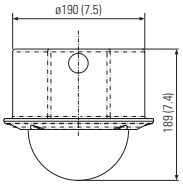
VA-80EX 24 V AC
Outdoor Housing



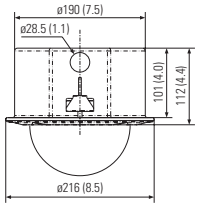
VA-80FC/FS
Surface Housing



VA-80MEC/MES
In-Ceiling Housing



UL2043

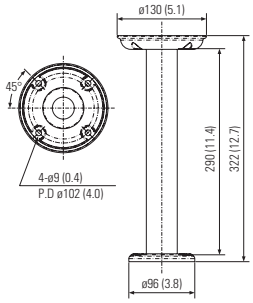


Dome Cover

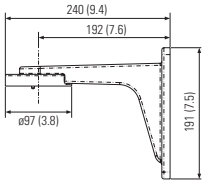
VA-CM8C Clear dome cover for outdoor housing
VA-CM8S Smoked dome cover for outdoor housing

Mounting Brackets (Sold separately)

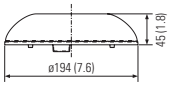
VA-80BP
Pendant Mounting Bracket



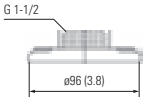
VA-80BW
Wall Mounting Bracket



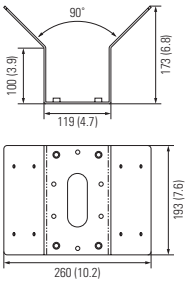
VA-80A
Attachment



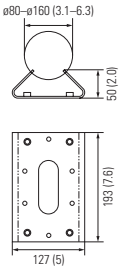
VA-80AB
Adaptor Bracket



VA-80AC
Corner Mounting Adaptor



VA-80AP
Pole Mounting Adaptor



Model		VCC-9800P E series	VCC-9700P E series	VCC-9600P E series	VCC-9500P E series
Scanning system		PAL standard 625 lines, 50 fields/sec.			
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD			
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)			
Horizontal resolution		540 TV lines (typical)			
Minimum illumination (approx.)	50 IRE	1.0 lx (at F1.6 GAIN: HIGH color mode) 0.05 lx, (at F1.6 B/W mode)	1.0 lx (at F1.6 GAIN: HIGH color mode)	0.8 lx (at F1.4 GAIN: HIGH color mode) 0.04 lx, (at F1.4 B/W mode)	0.8 lx (at F1.4 GAIN: HIGH color mode)
	20 IRE	0.4 lx (at F1.6 GAIN: HIGH color mode) 0.02 lx, (at F1.6 B/W mode)	0.4 lx (at F1.6 GAIN: HIGH color mode)	0.32 lx (at F1.4 GAIN: HIGH color mode) 0.016 lx, (at F1.4 B/W mode)	0.32 lx (at F1.4 GAIN: HIGH color mode)
Electronic sensitivity boost		Auto (interlocked with auto iris), up to 32x / OFF			
Video S/N ratio		More than 50 dB (AGC OFF)			
Backlight compensation		ON / OFF — ON = Multi-spot photometry (48-section) / 5-section photometry / Multi-spot masking (48-section)			
White-balance		ATW / AWC / Manual / Outdoor / Indoor / Fluorescent			
Gain control		Low / Normal / Middle / High / Off			
Electronic shutter		High-speed mode: 8 steps: 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 Low-speed mode: 5 steps: 2x, 4x, 8x, 16x, 32x (1/25, 1/12, 1/6, 1/3, 1/1.5)			
Zoom lens		36x optical zoom, f = 3.4 to 122.4 mm, (F1.6 to 4.5) ON / OFF, up to 16x electronic zoom (Max. 576x combined with optical zoom)		30x optical zoom, f = 3.5 to 105 mm, (F1.4 to 3.7) ON / OFF, up to 16x electronic zoom (Max. 480x combined with optical zoom)	
Movement range	Panning	360° endless			
	Tilting	-5 to 185° (Digital auto flip ON)			
Movement speed	Panning	Preset: 435°/sec, Manual: 0.1 to 120°/sec			
	Tilting	Preset: 400°/sec, Manual: 0.1 to 120°/sec			
Motion detector		On (PRESET, ZONE) / Off: Motion zoom function			
Privacy masking		On / Off: Max. 24 masked locations (Wide view screen; 1 screen max. 4 masks) All-around privacy masking			
Synchronizing system		Internal sync. / Line lock (LINE PHASE)			
V phase adjustment		LINE PHASE			
Communication		RS-485 / Coaxial control			
Protocols		SANYO (SSP / H-SSP), Pelco-C / D / P, Kalatel, AD, BBV, Ultrack, Bosch			
Environmental conditions	Temperature	-10°C to 50°C [+14°F to 122°F], -30°C to 50°C [-22°F to 122°F] when the outdoor housing, VA-80EX is used			
	Humidity	35% to 90% RH			
Power requirement		24 V AC 50Hz or 230 V AC, 50Hz			
Power consumption (approx.)	Camera unit + Power supply base	21 W: VCC-MC800P E + VA-84SA 22 W: VCC-MC800P E + VA-80SA	21 W: VCC-MC700P E + VA-84SA 22 W: VCC-MC700P E + VA-80SA	21 W: VCC-MC600P E + VA-84SA 22 W: VCC-MC600P E + VA-80SA	21 W: VCC-MC500P E + VA-84SA 22 W: VCC-MC500P E + VA-80SA
	Outdoor housing	35 W: VA-80EX			
Weight (approx.)	Outdoor type	5.1kg=VCC-9800EXCP E/9800EXSP E VCC-9830EXCP E/9830EXSP E	5.1kg= VCC-9700EXCP E/9700EXSP E VCC-9730EXCP E/9730EXSP E	5.1kg=VCC-9600EXCP E/9600EXSP E VCC-9630EXCP E/9630EXSP E	5.1kg= VCC-9500EXCP E/9500EXSP E VCC-9530EXCP E/9530EXSP E
	Surface type	2.4kg=VCC-9800INCP E/9800INSP E VCC-9830INCP E/9830INSP E	2.4kg=VCC-9700INCP E/9700INSP E VCC-9730INCP E/9730INSP E	2.4kg=VCC-9600INCP E/9600INSP E VCC-9630INCP E/9630INSP E	2.4kg=VCC-9500INCP E/9500INSP E VCC-9530INCP E/9530INSP E
	In-ceiling type	3.4kg=VCC-9800EMCP E/9800EMSP E VCC-9830EMCP E/9830EMSP E	3.4kg=VCC-9700EMCP E/9700EMSP E VCC-9730EMCP E/9730EMSP E	3.4kg=VCC-9600EMCP E/9600EMSP E VCC-9630EMCP E/9630EMSP E	3.4kg=VCC-9500EMCP E/9500EMSP E VCC-9530EMCP E/9530EMSP E

NOTE: Specifications subject to change without notice

High-resolution Weatherproof AF Zoom Camera

VCC-XZ600P

High Resolution of 540 TV Lines

SANYO has improved the horizontal resolution to 540 TV lines by developing the full capability of CCD and using an IR cut filter with enhanced performance. The result is a better picture quality, which even a conventional high resolution camera cannot match.

32X Sensitivity Boost for Minimum Illumination of 0.00125 Lx

While achieving 0.04 lx minimum subject illumination at maximum gain, sensitivity can be further heightened 32X for 0.00125 lx minimum illumination when the sensitivity boost function is activated at 50 IRE (F1.4). [B/W mode], 0.0005 lx minimum illumination when the sensitivity boost function is activated at 20 IRE (F1.4). [B/W mode]

Built-in Intelligent Digital Motion Detector and Zoom Detector

The Intelligent Digital Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VCC-XZ600P / VCC-ZM600P / VCC-ZM500P can send an alarm signal to external units and/or automatically switch to the optical zoom mode, according to the user's preference. Furthermore, an external alarm input terminal makes it possible, when an alarm signal is received, to automatically zoom in to the site of activity, according to a preset zooming operation.

Registering a view setting file (CAMERA VIEW)

To support shooting in various surveillance conditions like when the surveillance location is bright (or dark), the CAMERA VIEW screen allows you to register up to 2 patterns of shooting settings as camera view setting files.

High-resolution AF Zoom Camera

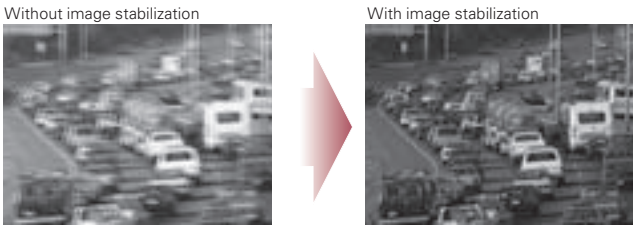
VCC-ZM600P

IP66 Compliant Enclosure & Adjustable Arm VCC-XZ600P

The angle of the arm is adjustable in all directions. Since the flexible joint is secured by screws, the arm maintains its position without sagging over time. In addition, a safety wire is included to prevent accidents. Installation on a ceiling or wall is easy without any additional parts. The wires are securely protected inside the arm.

Image Stabilizer

A gyro-sensor picks up camera vibration in the 5 to 15 Hz range, which is then suppressed electronically. This feature offers a clear image even in a strong wind or when the camera is installed near the heavy traffic highway.



13 Mode Electronic Shutter Speeds

2x, 4x, 8x, 16x, 32x, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, and 1/10000 sec.

Built-in Communication Board

SSP + Twisted pair board
Communication protocol:
Coaxial control: SSP / H-SSP / PELCO-C
RS485: SSP / H-SSP / PELCO-D
Twisted pair terminal (CAT 5) for video signal:
NVT built-in UTP video

Maximum 480x zoom

The 30x optical zoom and 16x digital zoom can be combined for close-ups at a magnification power of 480x. This allows even distant subjects to be observed in detail, enabling one camera to monitor a wider area.

High-resolution AF Zoom Camera

VCC-ZM500P

30x
Optical Zoom

VAC-70 Control

540 TV Lines	Minimum illumination 0.8 lx	Multi-spot/ Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Pelco-C/D Support	24 V AC 12 V to 15 V DC		

Privacy Masking

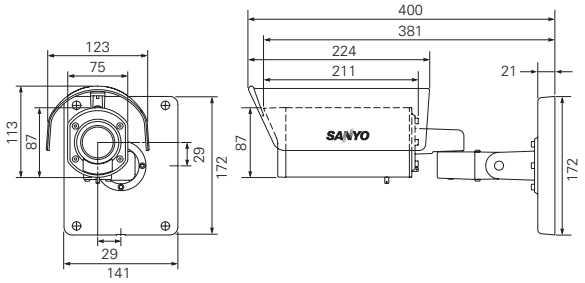
When there is a house, or even an object as small as a window within the camera frame, it is possible to mask the area so that it will not appear on the monitor screen to protect other people's privacy. Up to 4 rectangular masks of arbitrary size can be set per screen.

Other features

- Adjustable gamma correction and aperture settings
- Display of assignable camera ID and titles (16 characters max.)
- Mirror function

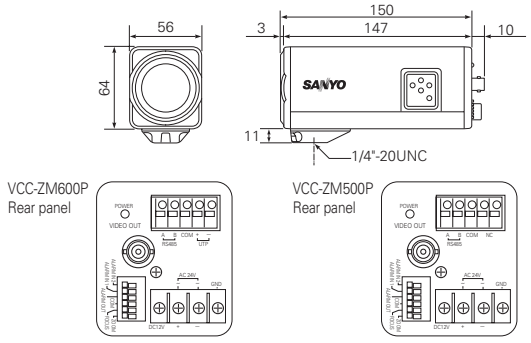
Optional (sold separately) See page 37 for details.
Camera Control Unit VAC-70

VCC-XZ600P



(Unit: mm)

VCC-ZM600P / VCC-ZM500P



(Unit: mm)

Model		VCC-XZ600P	VCC-ZM600P	VCC-ZM500P
Scanning system		PAL standard 625 lines, 50 fields/sec.		
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD		
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)		
Horizontal resolution		540 TV lines (typical)		
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.4, GAIN: HIGH, color mode), 0.04 lx (at F1.4, GAIN: HIGH, B/W mode)		0.8 lx (F1.4) at max. AGC gain, 0.025 lx (F1.4) at 32x electronic sensitivity boost
	20IRE	0.32 lx (at F1.4, GAIN: HIGH, color mode), 0.016 lx (at F1.4, GAIN: HIGH, B/W mode)		0.32 lx (F1.4) at max. AGC gain, 0.01 lx (F1.4) at 32x electronic sensitivity boost
Electronic sensitivity boost		AUTO (interlocked with auto iris), up to 32x / OFF		
Video output level		1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio		More than 50 dB (AGC OFF)		
Backlight compensation		ON / OFF, ON = Multi-spot photometry / Center-zone photometry / Multi-spot masking		
Day/Night		Color / BW switching function (color mode) Color / BW settings (3-level adjustment)and burst off/on setting function (B/W mode) can be used via alarm input		———
White-balance		ATW / AWC / Manual / Outdoor / Indoor / Fluorescent / R/B adjustment possible when using MWB		
Gain control		ON (Low / Normal / Middle / High) / OFF (Gain adjustment possible)		
Motion detector		ON (individual setting possible) / OFF, Motion zoom function (individual setting possible)		
Privacy masking		ON / OFF, max. of 4 masked locations (Wide view screen)		
Electronic shutter		High-speed mode:1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. Low-speed mode: 1/25, 1/12, 1/6, 1/5, 1/1.5		
Lens		f = 3.5 to 105mm F1.4 to 3.7 auto focus		
Synchronizing system		Internal sync. / Line lock		
View Angle	Horizontal	56 to 2.0°		
	Vertical	43 to 1.5°		
	Diagonal	68 to 2.5°		
V phase adjustment		LINE PHASE		
Optical zoom		30x		
Electronic zoom		16x		
Communication method		System connection terminals (RS485/Coaxial), support of camera control unit (VAC-70))		
Alarm input		External inputs: 2, NO / NC switch, Day/night switch		External inputs: 2, NO / NC switch
Alarm output		External outputs: 1, NO / NC switch, open corrector		
Mirroring function		OFF / HV / H / V		
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F], Humidity: within 90% RH		
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC		
Power consumption (approx.)		4.9 W		4.5 W
Dimensions (approx.)		141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]	56(W) x 64(H) x 150(D) mm [2.2(W) x 2.5(H) x 5.9(D) in.]	
Weight (approx.)		1.77 kg [62.4 oz.]	540 g [19.0 oz.]	

NOTE: Specifications subject to change without notice

High-resolution Vandal-resistant Dome Camera
VDC-DP7585P

PAN-FOCUS Technology in Perspective
2.6x Pan-Focus Lens
DAY NIGHT
IP66
VAC-70 Control

520 TV Lines	Minimum illumination 0.06 lx	Multi-spot/ Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Network (Option)	24 V AC 12 V to 15 V DC		

High-resolution Indoor mini Dome Camera
VCC-P7575PA

PAN-FOCUS Technology in Perspective
2.6x Pan-Focus Lens
VAC-70 Control

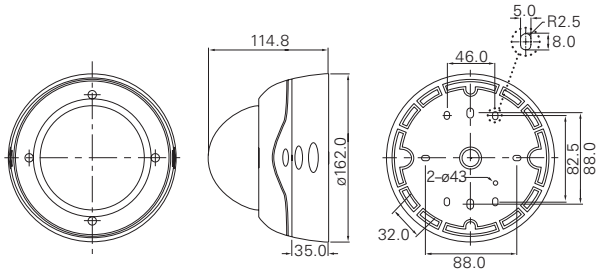
520 TV Lines	Minimum illumination 1.9 lx	Multi-spot/ Center-zone BLC	ATW AWC Manual	Internal sync. Line lock
Electronic shutter	SSP Network (Option)	24 V AC 12 V to 15 V DC		

Optional (sold separately) See page 14, 15, 16, 37 for details.

Network Board VA-50LAN* / VA-51LAN*
*It comes with the VA-SW3050LITE viewer software.
Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)
Network Recorder (sold separately)
VA-SW3050S (for server) / VA-SW3050C (for client)
Camera Control Unit VAC-70

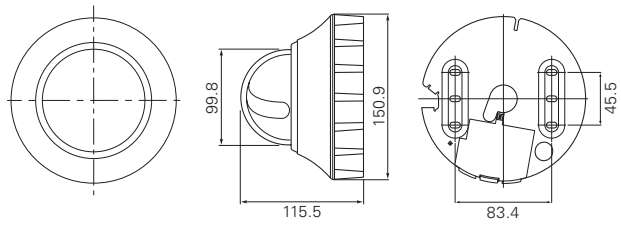
SSP+Twisted Pair Board VA-50ST
for VDC-DP7585P / VCC-P7575PA
Coaxial control : SSP / H-SSP / PELCO-C, RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5) for video signal: NVT built-in UTP video
NOTE: The VA-50LAN, VA-51LAN and the VA-50ST cannot be used concurrently.
Heater Board VA-50H for VDC-DP7585P
The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)
Smoked Cover VCZ-50 Half-Mirror Cover VCZ-51
for VCC-P7575PA

VDC-DP7585P



(Unit: mm)

VCC-P7575PA



(Unit: mm)

Model		VDC-DP7585P	VCC-P7575PA
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		520 TV lines	
Minimum illumination (approx.)	50IRE	1.2 lx (F1.9, Gain High, color mode) / 0.06 lx (F1.9, Gain High, B/W mode)	1.9 lx at max. AGC, with F1.9 lens
	20IRE	0.48 lx (F1.9, Gain High, color mode) / 0.024 lx (F1.9, Gain High, B/W mode)	0.76 lx at max. AGC, with F1.9 lens
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON (Multi-spot photometry [High/Normal], Center-zone photometry) / OFF	
Day/Night		Auto (High/Low) / Color / B/W: External control	
White-balance		ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)	
Gain control		High / Normal / OFF	
Gamma		0.45 / 1	
Motion detector		ON / OFF, Motion zoom function	
Privacy masking		ON / OFF: Max. 4 masked locations	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens		Built-in 2.6x motorized zoom pan-focus auto iris lens, f = 2.8 to 7.3mm (2.6x), F1.9 to 3.0	
Synchronizing system		Internal sync. / Line lock	
Alarm input		1 (NO / NC), with alarm zoom function	
Character display		On / Off, Camera ID max. 16 characters, adjusting position	
Aperture		HIGH PLUS / HIGH / NORMAL / OFF	
Environmental conditions	Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	Temperature: -10°C to 40°C [+14°F to 104°F] Humidity: within 90% RH
	Storage	Temperature: –20°C to +70°C (–4°F to +158°F), Humidity: within 70% RH	
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	
Power consumption (approx.)		3.5 W [without options], 9.5 W [with options], 23.0 W (with heater)	3.5 W [without options], 9.5 W [with options]
Dimensions (approx.)		ø162 x 114.8 mm [ø6.4 x 4.5 in.]	ø150.9 x 115.5 mm [ø6.0 x 4.6 in.]
Weight (approx.)		1.5 kg (52.9 oz.) [without options]	600 g (21.2 oz.) [without options]

NOTE: Specifications subject to change without notice

High-resolution Weatherproof Camera

VCC-XZ200P

IP66 Rated Enclosure

VCC-XZ200P is designed to fight off dust and water. The IP66 compliant package makes it suitable for outdoor installation at locations exposed to wind and rain.

Adjustable Arm

The angle of the arm is adjustable in all directions. Since the flexible joint is secured by screws, the arm maintains its position without sagging over time. In addition, a safety wire is included to prevent accidents. Installation on a ceiling or wall is easy without any additional parts. The wires are securely protected inside the arm.

Intelligent switching from Color to B/W

Selecting Color or B/W mode can be done automatically by the camera, or else manually. In addition, the user is allowed to change the switchover point from 1 to 10 lx (nominal) using the on-screen menu. The integration of Color and high sensitivity B/W modes in one camera makes it a versatile tool for any surveillance need. It is truly an all-in-one camera.

Flexible Motion Detector

The Flexible Motion Detector enables reliable and accurate motion detection by analyzing the magnitude of movement and the size of object from changes in picture brightness. When a moving object is detected, VCC-XZ200P can send an alarm signal* to external units and/or switch to the optical zoom mode that can be preset either to 1.0x, 1.4x, 2.0x, or 2.6x zoom.
*Only when using VA-20LAN or VA-20ST board option

Optional (sold separately) See page 14, 15, 16, 37, 38 for details.

Network Board VA-20LAN
This expansion board for network connection enables SANYO color CCD cameras to connect to a network. The user can operate a network connected camera using a web browser (Internet Explorer).
It comes with the VA-SW3050LITE viewer software.

Network Recorder
VA-SW3050S (for server) / VA-SW3050C (for client)

Video Management Software (VMS)
VA-SW50 (Advanced) / VA-SW60 (Enterprise)

SSP+Twisted Pair Board VA-20ST
Coaxial control : SSP / H-SSP / PELCO-C
RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5) for video signal: NVT built-in UTP video
NOTE: The VA-20LAN and the VA-20ST cannot be used concurrently.

Heater Board VA-50H
The heater board protects the camera from cold weather. It allows the camera to operate at temperatures as low as -30°C. (24 V AC only)

Camera Control Unit VAC-70

Privacy Masking

When there is a house or even an object as small as a window within the camera frame, to protect other people's privacy it is possible to mask the area so that it will not appear on the monitor screen. Up to 4 rectangular masks of any desired size can be set per screen. These masking areas may be protected with a 4-digit (max.) password.

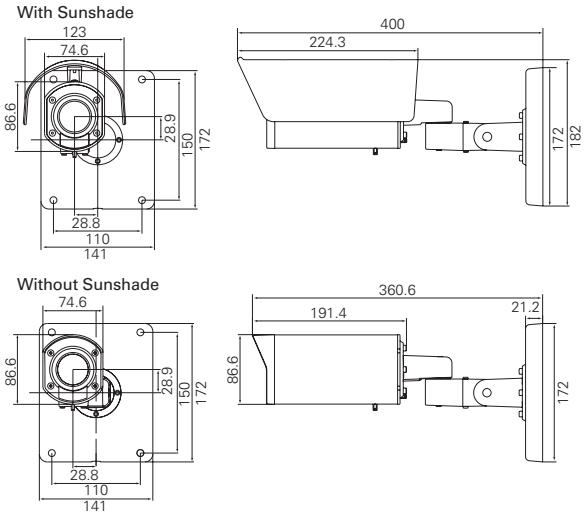
Easy Setup with an On-screen Menu

The VCC-XZ200P offers an on-screen menu for setting up the camera any desired way.

Other Features

• Display of assignable camera ID and title (16 characters max.)

VCC-XZ200P



(Unit: mm)

Model		VCC-XZ200P
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/4" (approx. 3.6 mm x 2.7 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		More than 520 TV lines
Minimum illumination (approx.)	50IRE	1.2 lx (F1.9, Gain High, Color mode) / 0.06 lx (F1.9, Gain High, B/W mode)
	20IRE	0.48 lx (F1.9, Gain High, Color mode) / 0.024 lx (F1.9, Gain High, B/W mode)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 50 dB (AGC OFF)
Backlight compensation		ON (Multi-spot photometry [High/Normal], Center-zone photometry) / OFF
Day/Night		Auto (High/Low) / Color / B/W: External control
White-balance		ATW / AWC / Manual (MWB) / Outdoor (3200) / Indoor (5600) / Fluorescent (FLUO)
Gain control		High / Normal / Off
Gamma		0.45 / 1
Motion detector		On / Off: Motion zoom function
Privacy masking		ON / OFF, max. 4 masked locations
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.
Lens		Built-in motorized zoom pan-focus auto iris lens, f=2.8 to 7.3 mm (2.6x), F1.9 to 3.0
Synchronizing system		Internal sync. / Line lock
V phase adjustment		LINE PHASE
Optical zoom		2.6x
Alarm input		1 (NO / NC), with alarm zoom function
Character display		On / Off, Camera ID max. 16 characters, adjusting position
Aperture compensation		High plus / High / Normal / Off
Environmental conditions	Operating	Temperature: –10°C to +50°C (+14°F to +122°F), Humidity: within 90% RH
	Storage	Temperature: –20°C to +70°C (–4°F to +158°F), Humidity: within 70% RH
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC
Power consumption (approx.)		3.5 W (without options), 6.0 W (with options), 13.0 W (with heater)
Dimensions (approx.)		141(W) x 172(H) x 400(D) mm [5.6(W) x 6.8(H) x 15.7(D) in.]
Weight (approx.)		1.56 kg [55.0 oz.] (without sunshade) 1.76 kg [62.1 oz.] (with sunshade)

NOTE: Specifications subject to change without notice

A new WDR method and a newly developed CMOS sensor produce new technology

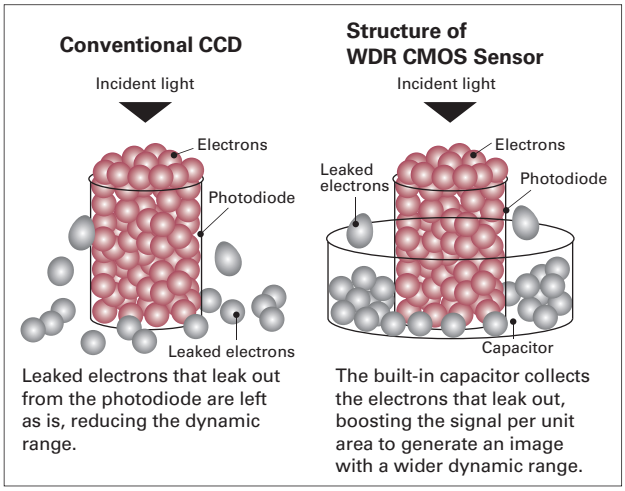
A new CMOS sensor and SANYO's advanced technology have made it possible to capture the surveillance subject with an image processing technique that is closer to human vision, to produce a true-color, high-resolution video picture regardless of light source. The new engine generates a linear output of low and high illumination areas without a time-lag, leading to a natural image with a dynamic range a great deal wider than that of conventional products. The sensor generates a smear-less output distinctive of a CMOS element, but with a sensitivity equivalent to CCD, to offer an image much brighter than ordinary CCD cameras. This is, indeed, a camera with a human eye.

Conventional Camera

SANYO WDR Camera

Sanyo's New CMOS Sensor

An enhanced CMOS sensor has made it possible to pick up additional information electrons that have been left out in the past. This increase in information density results in an accurate reproduction of images closer to reality.



Leaked electrons that leak out from the photodiode are left as is, reducing the dynamic range.

The built-in capacitor collects the electrons that leak out, boosting the signal per unit area to generate an image with a wider dynamic range.

Retina-Morphic processing

The retina replication algorithm, a new technology made possible by iridix(R) and SANYO's, has made it possible to make a real-time dynamic range correction. SANYO's WDR cameras utilize this technology to reproduce contrast that exceeds the capability of human eyes, and to deliver true colors even in an environment where the brightness changes rapidly.

Conventional Camera

SANYO WDR Camera

Progressive Scan Format

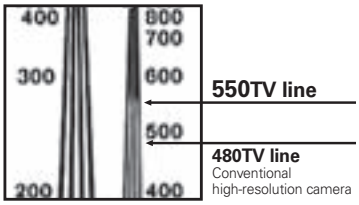
SANYO's new WDR camera uses the simultaneous read method for the image received by the sensor. Compared to the conventional multi-sampling method, the camera has no delay in signal, making it possible to depict edges more clearly when tracking a moving object. It also eliminates flickering of blinking light sources and offers video images more friendly to the human eye.

Conventional Camera

SANYO WDR Camera

The horizontal resolution of 550TVL (typical) leads the industry.

The combination of superior picture with a horizontal resolution of 550 TVL and WDR makes it possible to capture the surveillance subject's image more vividly.



Pure and natural color reproduction with the Bayer RGB filter

An RGB filter is a filter used to extract the three primary colors of light. The use of an enhanced filter results in the generation of faithful and natural colors.

Super Dynamic Range of 65dB

SANYO's Advanced WDR camera has achieved super dynamic range of 65dB in the industry top class by combining with the new WDR CMOS sensor and SANYO's Advanced Image Processing Engine. (Advanced WDR Image Processing System)

An enhancement of the DNR (Digital Noise Reduction) function enables unprecedented low -noise levels

A high-performance DNR function suppresses S/N ratio deterioration associated with the enhancement of darker areas. As a result, almost noise-free image processing is now possible to produce images that are free of jumps in contrast.

DNR OFF

DNR ON

The Minimum Illumination of 0.8 lux

Although CMOS sensors were considered poor at handling scenes with low illumination, SANYO's advance technology has solved the problem. The sensitivity is now as good as CCD.

Incorporates Premium Bayer Mosaic RGB Filter

The Advanced WDR camera also makes use of the acclaimed Bayer Mosaic RGB filter which extracts light's three primary colors (red, green and blue) from the CMOS sensor to deliver highly realistic and vivid colors that allow extremely accurate color reproduction.

Smearless

Conventional CCD units are known to generate vertical noises (smears) associated with bright spots. The new sensor diminishes these smears and offers a clear and bright picture.

High-resolution Vandal-resistant WDR Dome Camera

VDC-WD9885VP NEW

550 TV Lines	Minimum illumination 0.08 lx	WDR Wide Dynamic range	65dB AIP Engine	ATW AWC Manual
Internal sync. Line lock	Electronic shutter	DNR	24 V AC 12 V to 15 V DC	Vari-focal Lens

High-resolution Indoor mini WDR Dome Camera

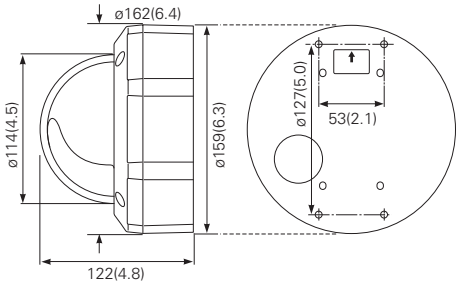
VCC-W9875VP NEW

550 TV Lines	Minimum illumination 0.8 lx	WDR Wide Dynamic range	65dB AIP Engine	ATW AWC Manual
Internal sync. Line lock	Electronic shutter	DNR	24 V AC 12 V to 15 V DC	Vari-focal Lens

Optional (sold separately) See page 37, 38 for details.

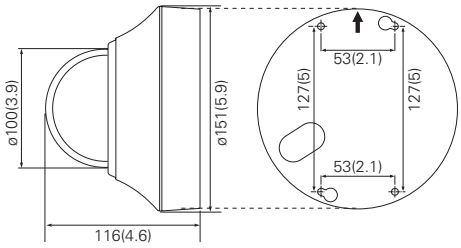
Base Bracket VA-60BX for VDC-WD9885VP
Heater VA-60H for VDC-WD9885VP
UTP (NVT) VA-60T
Attachment VA-50AL for VDC-WD9885VP
Attachment VA-50AS for VCC-W9875VP
Wall Mounting Bracket VA-50BW
In-Ceiling Bracket VA-DK02 for VCC-W9875VP
Pendant Mounting Bracket (long) VA-50BPL
Camera Control Unit VAC-70

VDC-WD9885VP



(Unit: mm)

VCC-W9875VP



(Unit: mm)

Model		VDC-WD9885VP	VCC-W9875VP
Scanning system		PAL standard 625 lines, 25 frames/sec.	
Image sensor		1/3" (approx. 4.5 mm x 3.38 mm) Progressive scan method CMOS	
Picture elements		Effective: 800(H) x 600(V)	
Horizontal resolution		550 TV lines (typical)	
Minimum illumination (approx.)	50IRE	0.8 lx at max. AGC High, with F1.2 lens, Color mode 0.08 lx at max. AGC High, with F1.2 lens, B/W mode	0.8 lx at max. AGC High, with F1.2 lens, Color mode
	20IRE	0.32 lx at max. AGC High, with F1.2 lens, Color mode 0.032 lx at max. AGC High, with F1.2 lens, B/W mode	0.32 lx at max. AGC High, with F1.2 lens, Color mode
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Wide dynamic	Setting	ON / OFF, Adjustable	
	Dynamic range	65dB (Typical)	
Backlight compensation		ON / OFF	
Day/Night		Auto / Color / B/W	———
White-balance		ATW / AWC / Manual (MWB) *MWB can adjust Red/Blue	
AGC		High / Normal / OFF	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens		Built-in 3.8x vari-focal lens, f = 2.8 to 10.5mm (3.8x), F1.2	
Pan/Tilt range	Ceiling	Panning: approx. 220° (±110°), Tilting: 0° to 90°	
	Wall	Panning: approx. 180° (±90°), Tilting: 0° to 90°	
Synchronizing system		Internal sync. / Line lock	
Menu		On-screen display (in English)	
Lens iris level		Level : L to H	
Digital noise reduction		ON (1/2) / OFF	
Aperture compensation		HIGH / NORMAL / LOW / OFF	
Title		16 characters	
Terminal	Video signal	VIDEO OUT (BNC)	
	Power supply	24 V AC, GND / 12V DC	
	Control	Color, B/W switching	———
Environmental conditions		Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	
Enclosure rating		IP66	———
Power supply		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	
Power consumption (approx.)		5.6 W / 19 W (with Heater Option, VA-60H)	5.6 W
Dimensions (approx.)		ø162 x 122 mm [ø6.4 x 4.9 inch] [without options]	ø151 x 116 mm [ø5.9 x 4.6 inch] [without options]
Weight (approx.)		1030g [36.3oz.] [without options]	440g [15.5oz.] [without options]

NOTE: Specifications subject to change without notice

High-resolution WDR Day/night Camera

VCC-WD8875P

AIP Engine
(SANYO Advanced Image Processing Engine)
DAY NIGHT

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.08 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V AC 12 V to 15 V DC		

High-resolution WDR Day/night Camera

VCC-WD8870P

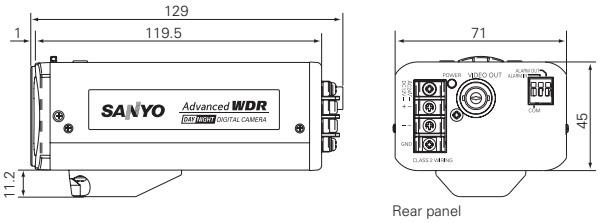
AIP Engine
(SANYO Advanced Image Processing Engine)
DAY NIGHT

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.08 lx	WDR Wide Dynamic range	65dB AIP Engine	Internal sync. Line lock
Electronic shutter	DNR	24 V or 230 V AC		

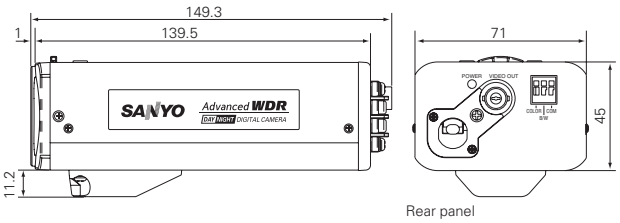
VCC-WD8875P



Rear panel

(Unit: mm)

VCC-WD8870P



Rear panel

(Unit: mm)

Model		VCC-WD8875P	VCC-WD8870P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.5 mm x 3.38 mm) Progressive scan method CMOS	
Picture elements		800(H) x 600(V) effective picture elements	
Horizontal resolution		550 TV lines (Typical)	
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.2 color mode) / 0.08 lx (at F1.2 B/W mode)	
	20IRE	0.32 lx (at F1.2 color mode) / 0.032 lx (at F1.2 B/W mode)	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF	
Wide Dynamic		ON/OFF, adjusting level etc. D-range: 65dB	
Day/Night		Auto / Color / B/W: supported external control	
White-balance		ATW / Manual	
Light control		Optical auto iris lens / Electronic iris	
Electronic iris		ON / OFF, 1 / 50 to 1 / 36,000sec	
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Lens iris level		level: L to H	
Lens mount		CS mount	
Auto iris output		DC type	
AGC gain		HIGH / NORMAL / OFF	
Synchronizing system		Internal sync. / Line lock	
Aperture		HIGH / NORMAL / LOW / OFF	
Menu		OSD, title setting: 16charactors	
Environmental conditions	Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F] Humidity: within 70% RH	
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50 Hz
Power consumption (approx.)		6.9 W	6.5 W
Camera mount		1/4" - 20 UND (top / buttom selectable)	
Dimensions (approx.)		71.0 (W) x 45.0 (H) x 120.5 (D) mm [2.8 (W) x 1.8 (H) x 4.7 (D) inch]	71.0 (W) x 45.0 (H) x 140.5 (D) mm [2.8 (W) x 1.8 (H) x 5.5 (D) inch]
Weight (approx.)		330 g [11.6 oz.]	550 g [19.4 oz.]

NOTE: Specifications subject to change without notice

High-resolution WDR Color Camera

VCC-W8775P

AIP Engine (SANYO Advanced Image Processing Engine)

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.8 lx	WDR Wide Dynamic range	65dB AIP Engine
Internal sync. Line lock	Electronic shutter	DNR	24 V AC 12 V to 15 V DC

High-resolution WDR Color Camera

VCC-W8770P

AIP Engine (SANYO Advanced Image Processing Engine)

Iridix®

Shown with optional lens

550 TV Lines	Minimum illumination 0.8 lx	WDR Wide Dynamic range	65dB AIP Engine
Internal sync. Line lock	Electronic shutter	DNR	24 V to 230 V AC

High-resolution WDR Vandal-resistant Dome Camera

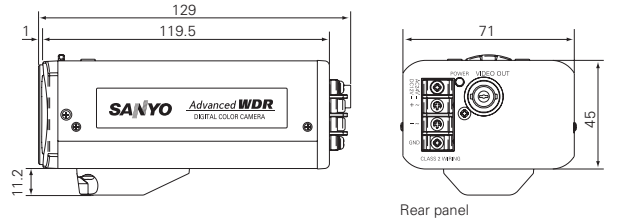
VDC-W1595VP

2.3x Vari-focal Lens

IP66

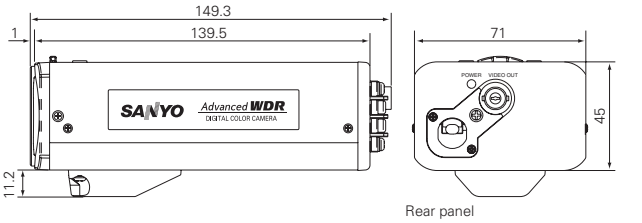
480 TV Lines	Minimum illumination 1.0 lx	WDR Wide Dynamic range	ATW-A ATW
Internal sync. Line lock (24 V AC user)	24 V AC 12 V to 15 V DC	Vari-focal lens	

VCC-W8775P



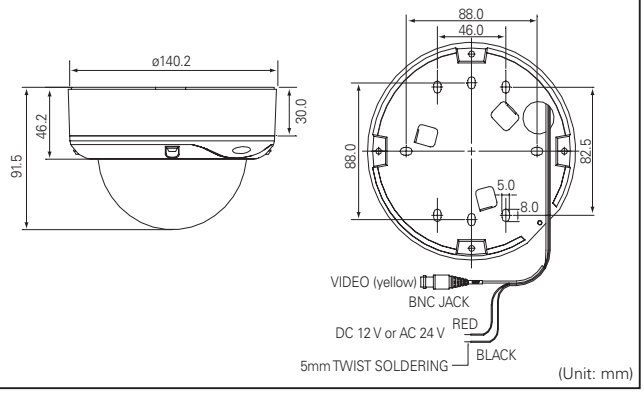
(Unit: mm)

VCC-W8770P



(Unit: mm)

VDC-W1595VP



(Unit: mm)

Optional (sold separately) See page 37, 38 for details.
for VDC-W1595VP
Wall Mounting Bracket VA-50BW
Pendant Mounting Bracket VA-50BPL (long) /
In-Ceiling Bracket VA-DK02
Attachment VA-50AM

Model		VCC-W8775P	VCC-W8770P	VDC-W1595VP
Scanning system		PAL standard 625 lines, 50 fields/sec.		
Image sensor		1/3" (approx. 4.5 mm x 3.38 mm) Progressive scan method CMOS		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		800(H) x 600(V) effective picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		550 TV lines (Typical)		480 TV lines
Minimum illumination (approx.)	50IRE	0.8 lx (at F1.2)		1.0 lx (at F 1.4)
	20IRE	0.32 lx (at F1.2)		0.4 lx (at F 1.4)
Video output level		1.0 V (p-p) (75 Ω, composite)		
Video S/N ratio		More than 50 dB (AGC OFF)		
Backlight compensation		ON / OFF		———
Wide Dynamic range		ON/OFF, adjusting level etc. D-range: 65dB		ON / OFF (54 dB typical)
Gain control		HIGH / NORMAL / OFF		ON / OFF
Gamma		0.45		
White-balance		ATW / Manual		ATW-A / ATW
Light control		Optical auto iris lens / Electronic iris		———
Electronic iris		ON / OFF, 1 / 50 to 1 / 36,000sec		———
Electronic shutter		1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.		———
Lens iris level		level: L to H		———
Lens		CS mount		Built in vari-focal lens f=2.6 to 6.0 mm
Manual pan and tilt angles	Horizontal	———		0 to 360°
	Vertical	———		0 to 120°
Auto iris output		DC type		———
Synchronizing system		Internal sync. / Line lock		Internal sync. / Line lock (24 V AC user)
Menu		OSD, title setting: 16charactors		———
Environmental conditions	Operating	Temperature: -10°C to 50°C [+14°F to 122°F] Humidity: within 90% RH		Temperature: -10°C to 40°C [+14F° to 104°F], Humidity: within 90% RH
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F] Humidity: within 70% RH		
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50 Hz	24 V AC ± 10%, 50 Hz or 12 V to 15 V DC
Power consumption (approx.)		6.9 W	6.5 W	4.0 W
Camera mount		1/4" - 20 UND (top / buttom selectable)		———
Dimensions (approx.)		71.0 (W) x 45.0 (H) x 120.5 (D) mm [2.8 (W) x 1.8 (H) x 4.7 (D) inch]	71.0 (W) x 45.0 (H) x 140.5 (D) mm [2.8 (W) x 1.8 (H) x 5.5 (D) inch]	140.2(ø) x 91.5(H) mm [5.6(ø) x 3.6(H) in.]
Weight (approx.)		320 g [11.3 oz.]	540 g [19.0 oz.]	850 g [13.9 oz.]

NOTE: Specifications subject to change without notice

High-resolution Vandal-resistant IR Dome Camera

VDC-D1785IRVP

DAY NIGHT

3.2x
Vari-focal IR Lens

IP67

540 TV Lines	Minimum illumination 0.0 lx	BLC	In-ceiling Surgace	Vandal-resistant
24 V AC 12 V DC	Vari-focal IR lens	IR LED	UTP video	

High Resolution of 540 TV Lines

SANYO has improved the horizontal resolution to 540 TV lines by developing the full capability of CCD and using an IR cut filter with enhanced performance. The result is a better picture quality, which even a conventional high resolution camera cannot match.

3.2x Vari-focal IR Lens

The 3.2x vari-focal IR lens (3.7 mm to 12 mm) is capable of providing wide angle pictures in addition to standard pictures.

IR LED

There is no need to prepare a separate light source. The camera comes with an infrared LED and, therefore, all you need to do is install the camera. The built-in LED makes it possible to capture images of an intruder even in complete darkness without alerting the person.

Conventional Camera

SANYO IR LED Camera

Day/Night

24-hour surveillance is now possible with just a single camera that works as a color camera during the day and a high-sensitivity B/W camera during the night. The mode of operation is automatically switched by replacing the optical filter. In addition to the IR sensing and high-sensitivity (BW) modes, the IR LED further expands the feasibility of surveillance, even in complete darkness.

IP67

VDC-D1785IRVP is designed to fight off dust and water. The IP67 compliant package makes it suitable for outdoor installation at locations exposed to wind and rain. Of course, this does not preclude its use for indoor applications.

Vandal-resistant Dome Camera

Vandal-resistant camera casing does not break even when hit with a hammer. Eliminates concern about the camera being damaged.

Suitable for a variety of applications

In addition to the basic flush-mount casing for the ceiling, a surface-mount adaptor is included for increased versatility.

Three-axis adjustment

The three-axis mechanism makes it easy to adjust the field of view. It increases freedom in installation.

TRIPLE Video Output (BNC/UTP/ADJ)

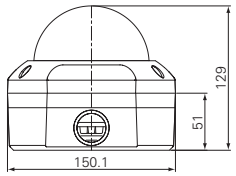
A UTP output has been added to the conventional composite video output. It makes wiring easier and less expensive. The camera also has an added terminal for adjustment for the convenience of modifying the field of view and focus at the time of installation.

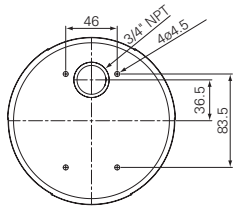
AC / DC Power Source Compatibility

VDC-D1785IRVP comes with power supply terminals of 24 V AC and 12 V DC. Select an appropriate source, depending on the location.

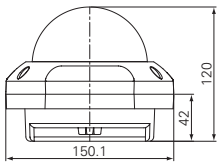
VDC-D1785IRVP

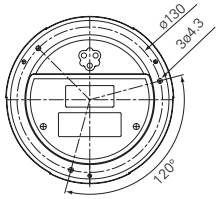
Surface-mount





In-ceiling-mount





(Unit: mm)

Model		VDC-D1785IRVP
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		540 TV lines
Minimum illumination	50IRE	0.7 lx (color at F 1.4, IR LED: OFF), 0.0 lx (B/W, F 1.4, IR LED: ON)
	20IRE	0.3 lx (color at F 1.4, IR LED: OFF), 0.0 lx (B/W, F 1.4 IR LED: ON)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 48 dB
Backlight compensation		ON / OFF
White-balance		Auto
Flicker Less		ON / OFF
Gain control		ON / OFF
Gamma		0.45
Day/Night		True-Day/Night (Auto)
Iris control		Optical auto iris lens
Lens		Built in vari-focal IR lens f=3.7 to 12 mm
Angle of view	Horizontal	76.92 to 22.73°
	Vertical	56.89 to 17.07°
Camera of IR LED		18pcs
IR distance		20m
IR wavelength		850nm
Synchronizing system		Internal sync.
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH
	Storage	Temperature: -20°C to 60°C [– 4F° to 140°F], Humidity: within 70% RH
Power requirement		24 V AC ± 10%, 50 Hz or 12 V DC ± 10%
Power consumption (approx.)		7.0 W
Waterproof standard		IP67
Dimensions (approx.)		150(ø) x 129(H) mm [5.9(ø) x 5.1(H) in.]
Weight (approx.)		0.95 kg [33.5 oz.] Inceiling / 1,2 kg [43.7 oz.] Suface

NOTE: Specifications subject to change without notice

High-resolution Vandal-resistant Dome Camera

VDC-D1585VP

520 TV Lines	Minimum illumination 0.05 lx	BLC	ATW-A ATW	Internal sync. Line lock (24 V AC urer)
	24 V AC 12 V to 15 V DC	Vari-focal lens		

High-resolution Vandal-resistant Dome Camera

VDC-C1575VP

520 TV Lines	Minimum illumination 1.0 lx	BLC	ATW-A ATW	Internal sync. Line lock (24 V AC urer)
	24 V AC 12 V to 15 V DC	Vari-focal lens		

IP66

VDC-D1585VP, and VDC-C1575VP are all designed to fight off dust and water. The IP66 compliant package makes them suitable for outdoor installation at locations exposed to wind and rain. Of course, this does not preclude its use for indoor applications.

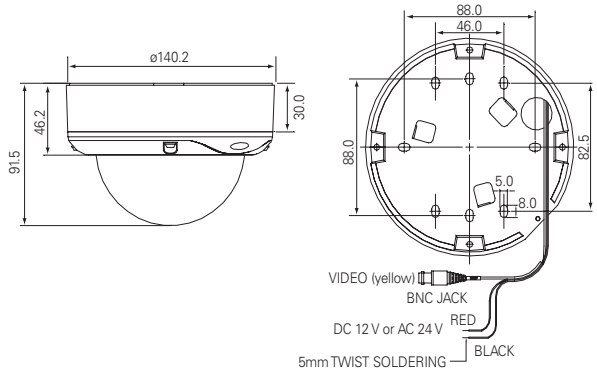
2.3x Vari-focal Lens

The 2.3x vari-focal lens (2.6 mm to 6 mm) is capable of providing wide angle pictures in addition to standard pictures. The camera allows its user to manually adjust the pan and tilt angles in the range of 360° and 120° respectively.

Vandal-resistant Dome Camera

Vandal-resistant camera casing does not break even when hit with a hammer. Eliminates concern about the camera being damaged.

VDC-D1585VP / VDC-C1575VP



(Unit: mm)

Optional (sold separately) See page 37, 38 for details.
Wall Mounting Bracket VA-50BW
Pendant Mounting Bracket VA-50BPL (long)
In-Ceiling Bracket VA-DK02
Attachment VA-50AM

Model		VDC-D1585VP	VDC-C1575VP
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		520 TV lines	
Minimum illumination	50IRE	1.0 lx (at F 1.4, color mode) 0.05 lx (at F 1.4 lens, B/W mode)	1.0 lx (at F 1.4)
	20IRE	0.4 lx (at F 1.4, color mode) 0.02 lx (at F 1.4 lens, B/W mode)	0.4 lx (at F 1.4)
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF —Slide SW	
White-balance		ATW-A / ATW	
Gain control		ON / OFF	
Gamma		0.45	
Iris control		Optical auto iris lens	
Lens		Built in vari-focal lens f=2.6 to 6.0 mm	
Manual pan and tilt angles	Horizontal	0 to 360°	
	Vertical	0 to 120°	
Synchronizing system		Internal sync. / Line lock (24 V AC user)	
Sockets	Video signal	VIDEO OUT —BNC	
	Power supply	24 V AC, GND, 12 V DC	
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [– 4F° to 158°F], Humidity: within 70% RH	
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC	
Power consumption (approx.)		2.6 W	
Waterproof standard		IP66	
Dimensions (approx.)		140.2(ø) x 91.5(H) mm [5.6(ø) x 3.6(H) in.]	
Weight (approx.)		850 g [30 oz.]	

NOTE: Specifications subject to change without notice

High-resolution Indoor mini Dome Camera
VCC-9785VP

NEW

3.6x
Vari-focal lens

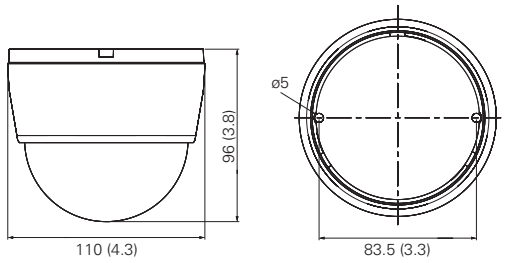
540 TV Lines	Minimum illumination 0.40 lx	BLC	ATW	Internal sync. Line lock
Electronic shutter	24 V AC 12 V DC	Vari-focal lens		

High-resolution sensitivity Camera
VCC-5995P

Shown with optional lens

540 TV Lines	Minimum illumination 0.5 lx	Center-zone BLC	ATW	Internal sync. Line lock
DC auto iris lens	24 V AC 12 V to 15 V DC			

VCC-9785VP

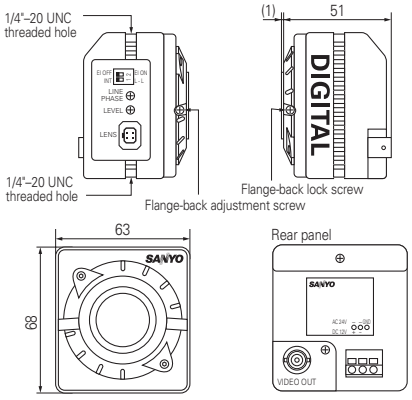


(Unit: mm)

Model		VCC-9785VP
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: Effective 752(H) x 582(V)
Horizontal resolution		540 TV lines (Typical)
Minimum illumination	50IRE	0.4 lx (at F 1.3, AGC ON)
	20IRE	0.16 lx (at F 1.3, AGC ON)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 48 dB (AGC off)
Backlight compensation		ON / OFF
White-balance		Auto
Flicker Less		No
AGC		ON / OFF
Gamma		0.45
Electric shutter		1/50 to 1/10000
Day/Night		————
Iris control		Auto iris DC
Lens		Built in vari-focal lens f=2.8 to 10 mm (F1.3)
Angle of view	Horizontal	Panning range ± 180°
	Vertical	Tilting range ± 83°
Unshielded twisted pair		Passive type
Synchronizing system		Internal sync. / Line lock
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH
	Storage	————
Power requirement		24 V AC ± 10%, 50 Hz or 12 V DC ± 10%
Power consumption (approx.)		3.5 W
Waterproof standard		————
Dimensions (approx.)		110(ø) x 96(H) mm [4.3(ø) x 3.8(H) inch]
Weight (approx.)		300 g [10.58 oz.]

NOTE: Specifications subject to change without notice

VCC-5995P



(Unit: mm)

Model		VCC-5995P
Scanning system		PAL standard 625 lines, 50 fields/sec.
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)
Horizontal resolution		540 TV lines (typical)
Minimum illumination	50IRE	0.5 lx (at F 1.2, AGC on)
	20IRE	0.2 lx (at F 1.2, AGC on)
Video output level		1.0 V (p-p) (75 Ω, composite)
Video S/N ratio		More than 50 dB (AGC OFF)
Backlight compensation		ON / OFF —— Slide SW ON = Center-zone photometry (activated when auto iris lens used)
White-balance		ATW
Gain control		AGC ON/OFF
Gamma		0.45
Lens mount		CS mount
Flange back		12.5 mm ±0.5 mm adjustment
Auto iris lens		DC type
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -)
Lens iris level		LEVEL: L to H —— VR (side)
Electronic iris		ON / OFF —— Slide SW
Aperture		Sharp
Electronic iris range		1/50 to 1/100000 sec. —— Slide SW (side)
Synchronizing system		Internal sync. / Line lock —— Slide SW (side)
V phase adjustment		LINE PHASE —— VR (rear)
Sockets	Video signal	VIDEO OUT —— BNC (rear)
	Auto iris lens	LENS —— 4-pin (side)
	Power supply	24V AC, GND — Pushlock terminal x3 (rear), 12 V to 15 V DC — Pushlock terminal x2 (rear)
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH
	Storage	Temperature: -20°C to 70°C [– 4F° to 158°F], Humidity: within 70% RH
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC
Power consumption (approx.)		3.6 W
Camera mount		1/4"–20 UNC (top / bottom selectable)
Dimensions (approx.)		63(W) x 68(H) x 52(D) mm [2.5(W) x 2.7(H) x 2.0(D) in.]
Weight (approx.)		160 g [5.64 oz.] (without lens)

NOTE: Specifications subject to change without notice

E-Day/night High-resolution Camera

VCC-6695P

E-DAY NIGHT
Electronic Day/Night function

Shown with optional lens

540 TV Lines	Minimum illumination 0.25 lx	E-Day/Night	ATW Manual	Internal sync. Line lock
DC auto iris lens	24 V AC 12 V 15 V DC			

E-Day/night High-resolution Camera

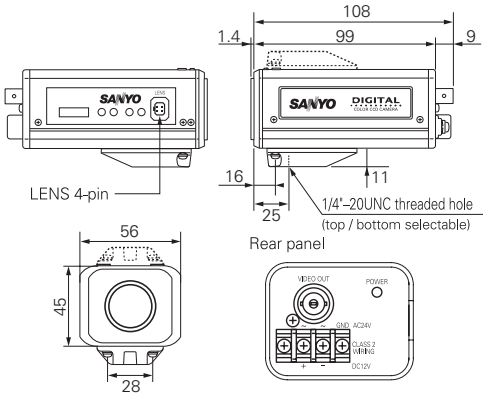
VCC-6690P

E-DAY NIGHT
Electronic Day/Night function

Shown with optional lens

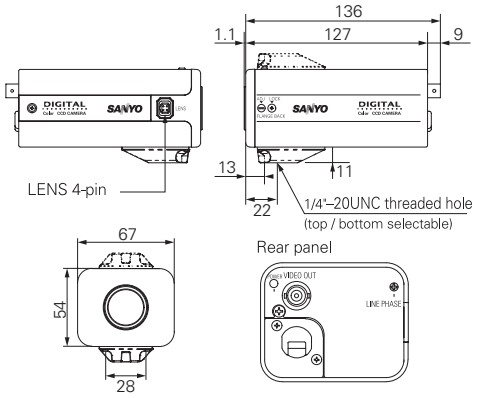
540 TV Lines	Minimum illumination 0.25 lx	E-Day/Night	ATW Manual	Internal sync. Line lock
Electronic shutter	DC auto iris lens	220 V to 230 V AC		

VCC-6695P



(Unit: mm)

VCC-6690P



(Unit: mm)

Model		VCC-6695P	VCC-6690P
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		540 TV lines (typical)	
Minimum illumination	50IRE	0.35 lx (at F 1.2, GAIN HI color mode), 0.25 lx (at F 1.2 lens, GAIN HI B/W mode)	
	20IRE	0.14 lx (at F 1.2, GAIN HI color mode), 0.1 lx (at F 1.2 lens, GAIN HI B/W mode)	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF —— Slide SW (Side) ON = Multi-spot photometry (2-mode) / Center-zone photometry (activated when auto iris lens used)	
E-Day/Night		ON / OFF —— Slide SW	
White-balance		ATW / Manual —— Slide SW (side)	
Gain control		————————	
Gamma		0.45	
Electronic shutter		————————	8-mode: 1/50, 1/120,1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec. —— Dip SW (side)
Light control		Auto iris / Electronic iris	————————
Lens mount		CS mount	
Flange back		12.5 mm ±0.5 mm adjustment	
Auto iris lens		DC type	
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -)	
Lens iris level		LEVEL: L to H —— VR (side)	
Electronic iris		ON / OFF —— Slide SW	
Aperture		Sharp	Sharp / Normal
Electronic iris range		0.35 to 50,000 lx (at F1.2, GAIN HI Color mode), 0.35 to 50,000 lx (at F1.2, GAIN HI B/W mode)	
Synchronizing system		Internal sync. / Line lock —— Slide SW (side)	
V phase adjustment		LINE PHASE —— VR (rear)	
Sockets	Video signal	VIDEO OUT —— BNC (rear)	
	Auto iris lens	LENS —— 4-pin (side)	
	Power supply	24V AC, GND — 3-pin terminal (rear), 12 V to 15 V DC — 2-pin terminal (rear)	————————
Operating conditions	Operating	Temperature: -10°C to 50°C [+14F° to 122°F], Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [– 4F° to 158°F], Humidity: within 70% RH	
Power requirement		24 V AC ± 10%, 50 Hz or 12 V to 15 V DC	220 to 230 V AC ± 10%, 50 Hz
Power consumption (approx.)		3.6 W	3.7 W
Camera mount		1/4"–20 UNC (top / bottom selectable)	
Dimensions (approx.)		56(W) x 45(H) x 100.4(D) mm [2.2(W) x 1.8(H) x 4.0(D) in.]	67(W) x 54(H) x 128.1(D) mm [2.6(W) x 2.1(H) x 5.0(D) in.]
Weight (approx.)		260 g [9.17 oz.] (without lens)	600 g [21.16 oz.] (without lens)

NOTE: Specifications subject to change without notice

High-resolution Camera

VCC-4795P E

DAY NIGHT

Shown with optional lens

540 TV Lines	Minimum illumination 0.01 lx	Multi-spot / Center-zone BLC	ATW Manual	Internal sync. Line lock
Electronic shutter	DC auto iris lens	24 V AC 12 V to 15 V DC		

High-resolution Camera

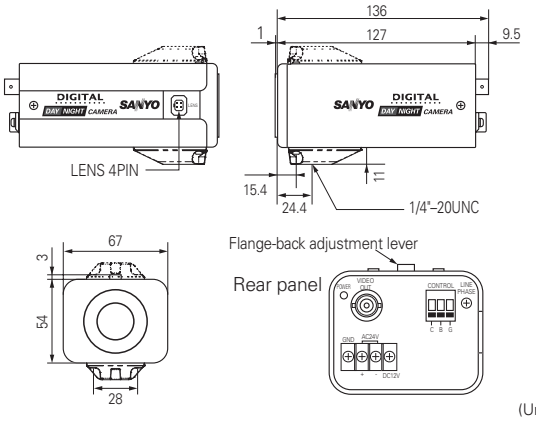
VCC-4790P E

DAY NIGHT

Shown with optional lens

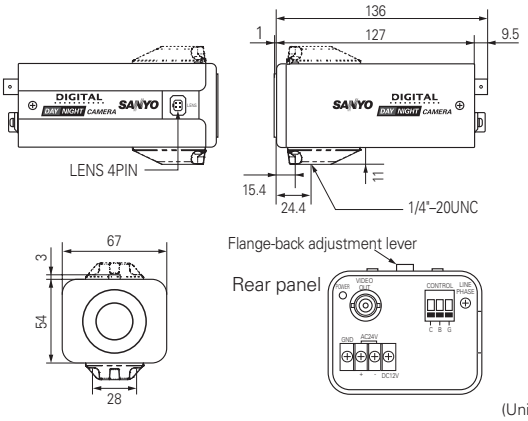
540 TV Lines	Minimum illumination 0.01 lx	Multi-spot / Center-zone BLC	ATW Manual	Internal sync. Line lock
Electronic shutter	DC auto iris lens	220 V to 230 V AC		

VCC-4795P E



(Unit: mm)

VCC-4790P E



(Unit: mm)

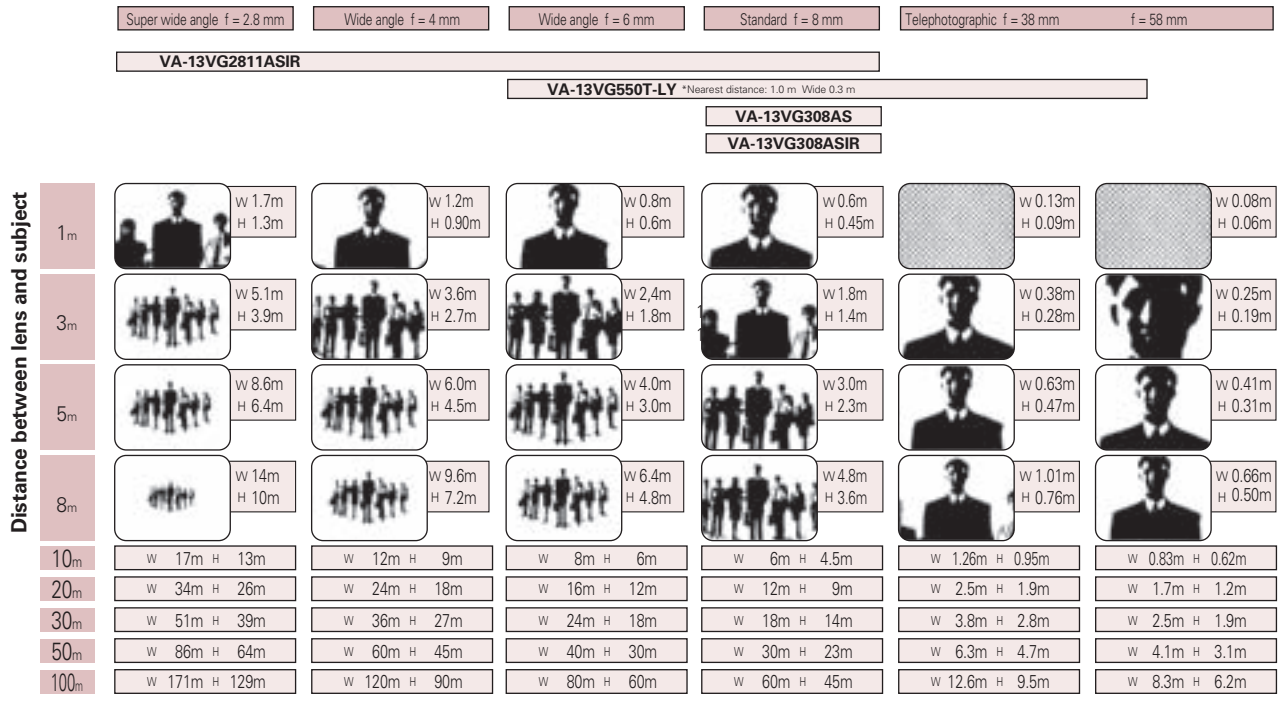
Model		VCC-4795P E	VCC-4790P E
Scanning system		PAL standard 625 lines, 50 fields/sec.	
Image sensor		1/3" (approx. 4.8 mm x 3.6 mm) interline transfer method CCD	
Picture elements		Total: 795(H) x 596(V), Effective: 752(H) x 582(V)	
Horizontal resolution		540 TV lines (typical)	
Minimum illumination (approx.)	50IRE	0.01 lx (F1.2, Gain High, B/W mode) 0.45 lx (F1.2, Gain High color mode)	
	20IRE	0.004 lx (F1.2, Gain High, B/W mode) 0.18 lx (F1.2, Gain High, color mode)	
Video output level		1.0 V (p-p) (75 Ω, composite)	
Video S/N ratio		More than 50 dB (AGC OFF)	
Backlight compensation		ON / OFF — Slide SW, ON = Multi-spot photometry (64-section) / Center-zone photometry — (activated when auto iris lens used)	
Day/Night		Auto (High/Low) / Color / B/W: External control	
White-balance		ATW / Manual — Slide SW	
Gain control		High / Normal — Slide SW	
Gamma		0.45	
Light control		Optical auto iris lens / Electronic iris (indoor use)	
Lens mount		CS mount	
Flange back		12.5 mm ±0.5 mm adjustment	
Auto iris lens		DC	
Auto iris output		DC: Drive coil (+, -), Brake (Damp) coil (+, -)	
Lens iris level		LEVEL: L to H — VR (side)	
Electronic shutter		1/50, 1/120, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.	
Electronic iris		ON / OFF — Slide SW	
Aperture compensation		Sharp / Normal	
Electronic iris range		0.6 lx to 30,000 lx (F 1.2 lens: color mode), 0.9 lx to 45,000 lx (F 1.4 lens: color mode)	
Synchronizing system		Internal sync. / Line lock	
Sockets	Video signal	VIDEO OUT — BNC	
	Auto iris lens	LENS — 4-pin (side)	
	Power supply	24 V AC, GND —3-pin terminal (rear) 12 V DC, NC —3-pin terminal (rear)	220 V to 230 V AC, 50Hz
Operating conditions	Operating	Temperature: -10°C to 50°C [14°F to 122°F], Humidity: within 90% RH	
	Storage	Temperature: -20°C to 70°C [-4°F to 158°F], Humidity: within 70% RH	
Power requirement		24 V AC ±10%, 50 Hz or 12 V to 15 V DC	220 V to 230 V AC, 50Hz
Power consumption (approx.)		3.7 W	3.6 W
Camera mount		1/4"–20 UNC (top / bottom selectable)	
Dimensions (approx.)		67(W) x 54(H) x 128(D) mm [2.6(W) x 2.1(H) x 6.0(D) in.]	
Weight (approx.)		400 g [14.1 oz.] (without lens)	600 g [21.2 oz] (without lens)

NOTE: Specifications subject to change without notice

	Standard Vari-focal IR Lens for 1/3" CCD Camera VA-13VG2811ASIR	Standard Vari-focal IR Lens for 1/3" CCD Camera VA-13VG308ASIR	Tele Vari-focal Lens for 1/3" CCD Camera VA-13VG550T-LY	Standard Vari-focal Lens for 1/3" CCD Camera VA-13VG308AS
Application	1/3" CCD camera	1/3" CCD camera	1/3" CCD camera	1/3" CCD camera
Mounting system	CS mount	CS mount	CS mount	CS mount
EE AMP	not equipped	not equipped	not equipped	not equipped
Focal length	f = 2.8 to 11 mm	f = 3.0 to 8 mm	f = 5 to 50 mm	f = 3.0 to 8 mm
Max. caliber rate	F1.4 to 2.6	F1.2	F1.4 to 2.0	F1.2
Horizontal shooting angle	1/3" = 97.4° to 26.2°, 1/4"= 72.4° to 19.7°	34.8°	66.8°	34.8°
Vertical shooting angle	1/3" = 72.4° to 19.7°, 1/4"= 54.0° to 14.7°	26.0°	40.3°	26.0°
Nearest distance	0.3 m	0.3 m	Tele 1.0 m Wide 0.3 m	0.3 m
Iris connecting plug	4-pin	4-pin	4-pin	4-pin
External dimensions	52.5(W) x 64.6(H) x 40(D) mm	55.6(W) x 44.2(H) x 49.3(D) mm	41.0(W) x 53.7(H) x 59.2(D) mm	55.6(W) x 44.2(H) x 49.3(D) mm
Weight (approx.)	79 g [2.8 oz.]	67 g [2.4 oz.]	95 g [3.4 oz.]	67 g [2.4 oz.]

lens for 1/3" CCD camera

Image Range at a Glance



*Images produced by the camera may differ slightly from above images

Technical Notes

Formula for determining the minimum subject illumination for different F value

The amount of light passed through a lens is expressed by a value called "aperture value" (F value or F number). When the aperture is fully open (maximum aperture), the maximum amount of light is passed through the lens. This is the lens' brightness and is expressed by the "maximum aperture F value". The maximum aperture F value is obtained by dividing the focal length with the lens diameter (D). The capital letter "F" is used to distinguish it from "f," which means the focal length.

$$\text{Standard minimum subject illumination} \times \left(\frac{\text{Target F value}}{\text{Lens F value used for measurement}}\right)^2$$

Example:

For a lens of F1.2, use the value of 1.0 lx which is obtained by actual measurement.

When using a lens of F1.4:

$$1.0 \times \left(\frac{1.4}{1.2}\right)^2 = 1.4 \text{ lx}$$

When using a lens of F1.6:

$$1.0 \times \left(\frac{1.6}{1.2}\right)^2 = 1.8 \text{ lx}$$

$F = \frac{f}{D}$

SANYO defines the minimum subject illumination to be the level that produces the signal **level of 50 IRE** in measuring camera performance.

For a comparison of minimum subject illumination:

Always confirm the F value and the IRE level used in the measurement. If the F value and the IRE level do not match, then convert the values in camera specifications using the following method.

F1.2, 50IRE 1.0 lx

F1.2, 20IRE $1.0 \times \frac{20}{50} = 0.4$ lx

F1.4, 50IRE $1.0 \times \left(\frac{1.4}{1.2}\right)^2 = 1.4$ lx

F1.4, 20IRE $1.4 \times \frac{20}{50} = 0.56$ lx

F1.6, 50IRE $1.0 \times \left(\frac{1.6}{1.2}\right)^2 = 1.8$ lx

F1.6, 20IRE $1.8 \times \frac{20}{50} = 0.56$ lx

Camera Control Unit VAC-70

Video output terminal	BNC x 1
Camera input terminal	BNC x 1
Environmental conditions	Temperature: -10°C to 50°C [14°F to 122°F], Humidity: 10 to 80%
Power requirement	3 V DC, 2 AA / LR6 / 1.5 V batteries
Dimensions	80(W) x 40(H) x 140(D) mm [3.2(W) x 1.6(H) x 5.5(D) inch]
Weight (approx.)	230 g [8.1 oz.] (without batteries)

NOTE: Specifications subject to change without notice

Applicable models

VCC-HD4600P	P.5	VCC-9600P E	P.20
VCC-HD4000P	P.8	VCC-XZ600P	P.23
VCC-XZN600P	P.12	VCC-ZM600P	P.23
VCC-ZMN600P	P.12	VCC-ZM500P	P.24
VDC-DPN9585P	P.13	VDC-DP7585P	P.25
VCC-PN9575P	P.13	VCC-P7575PA	P.25
VCC-9700P E	P.19	VCC-XZ200P	P.26
VCC-9800P E	P.19	VDC-WD9885VP	P.28
VCC-9500P E	P.20	VCC-W9875VP	P.28

Option board (sold separately)

SSP+Twisted pair board VA-20ST
for VCC-XZ200P
Coaxial control : SSP / H-SSP / PELCO-C, RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5)
for video signal: NVT built-in UTP video
NOTE: The VA-20LAN and the VA-20ST cannot be used concurrently.

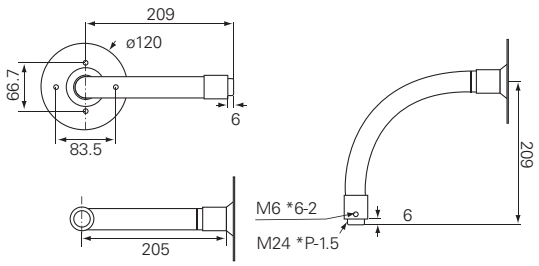
SSP+Twisted pair board VA-50ST
for VDC-DP7585P / VCC-P7575PA
Coaxial control : SSP / H-SSP / PELCO-C, RS-485: SSP / PELCO-D
Twisted pair terminal (CAT5)
for video signal: NVT built-in UTP video
NOTE: The VA-50LAN, VA-51LAN and the VA-50ST cannot be used concurrently.

Twisted pair board VA-60T
Twisted pair terminal (CAT5) for video signal: NVT built-in UTP video
for VCC-W9875VP / VDC-WD9885VP

Base Bracket VA-60BX
for VDC-WD9885VP

Wall Mounting Bracket VA-50BW
for VA-50AL / VA-50AM / VA-50AS / VA-80AM

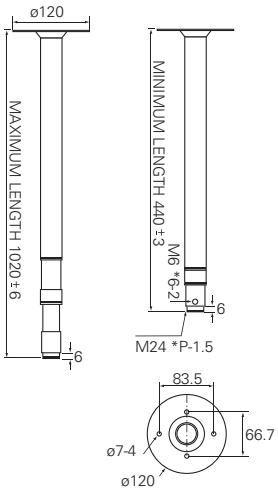
350g (12.3 oz.)



(Unit: mm)

Pendant Mounting Bracket (long) VA-50BPL
for VA-50AL / VA-50AM / VA-50AS

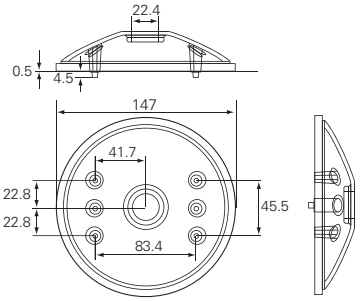
550g
(19.4 oz.)



(Unit: mm)

Attachment VA-50AS
for VCC-PN9575P / VCC-P7575PA / VCC-W9875VP

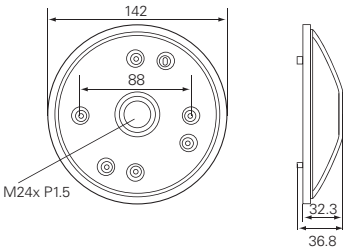
220g (7.8 oz.)



(Unit: mm)

Attachment VA-50AM
for VDC-W1595VP / VDC-D1585VP / VDC-C1575VP

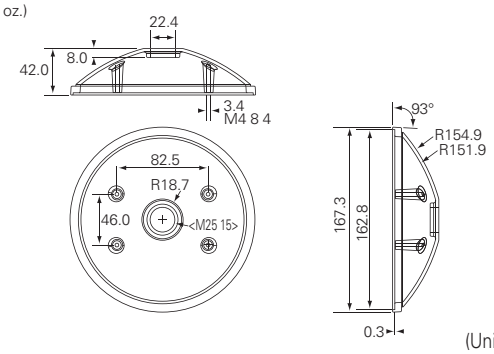
200g (7.1 oz.)



(Unit: mm)

Attachment VA-50AL
for VDC-DPN9585P / VDC-DP7585P / VDC-WD9885VP

275g (9.7 oz.)



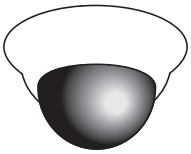
(Unit: mm)

Heater Board VA-50H
for VCC-XZ200P / VDC-DPN9585P / VDC-DP7585P

The heater board protects the camera from cold weather. It allows the camera to operate at outside temperatures as low as -30°C.
(24 V AC only)

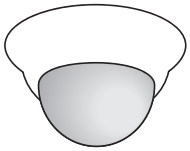
Smoked Cover VCZ-50
for VCC-PN9575P / VCC-P7575PA / VCC-W9875VP

38.5g(1.4 oz.)

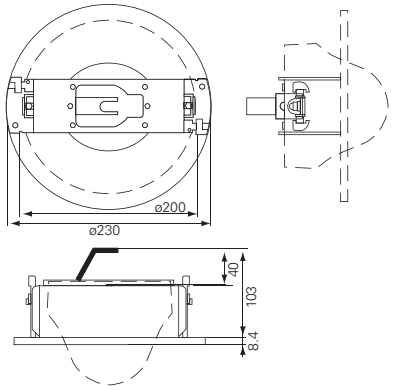


Half-Mirror Cover VCZ-51
for VCC-PN9575P / VCC-P7575PA / VCC-W9875VP

38.5g (1.4 oz.)



In-Ceiling Bracket VA-DK02
for VDC-DPN9585P / VCC-PN9575P / VDC-DP7585P / VCC-P7575PA / VDC-W1595VP / VDC-D1585VP / VDC-C1575VP / VCC-W9875VP



(Unit: mm)

Model name		Installation	Attachment		Bracket
VDC-DPN9585P VDC-DP7585P VDC-WD9885VP	P.13 P.25 P.28	Wall mounting	VA-50AL	+	VA-50BW
		Pendant mounting	VA-50AL	+	VA-50BPL

Model name		Installation	Attachment		Bracket
VDC-W1595VP VDC-D1585VP VDC-C1575VP	P.30 P.32	Wall mounting	VA-50AM	+	VA-50BW
		Pendant mounting	VA-50AM	+	VA-50BPL

Model name		Installation	Attachment		Bracket
VCC-PN9575P VCC-P7575PA VCC-W9875VP	P.13 P.25 P.28	Wall mounting	VA-50AS	+	VA-50BW
		Pendant mounting	VA-50AS	+	VA-50BPL

Optional Combination Chart

	IP					
Model No	**VCC-HD5600P / BK**	**VCC-HD5400P / BK**	**VCC-HD4600P**	**VDC-HD3500P**	**VDC-HD3300P**	**VDC-HD3100P**
VA-90S Power unit AC230V	●	——	——	——	——	——
VA-94S Power unit AC24V	●	——	——	——	——	——
VA-SW3050S/C Network Recorder Software	●	●	●	●	●	●
VA-SW50 / VA-SW60 VMS	●	●	●	●	●	●
VA-80AM Attachment for Indoor / Outdoor	——	●	——	●	●	●
VA-80A Attachment for Indoor	●	——	——	——	——	——
VA-80EX Outdoor Housing	●	——	——	——	——	——
VA-85BX Base Bracket	——	——	——	●	●	●
VA-DK03 In-ceiling Bracket	——	——	——	●	●	●
VA-50BW Wall Mounting Bracket	——	——	—	●	●	●
VA-50BPL Ceiling Suspension Bracket	——	——	——	●	●	●
VA-80MEC / VA-80MES In-ceiling Housing	——	●	——	——	——	——
VA-80AE Adaptor	——	●	——	——	——	——
VA-80BW Wall Mounting Bracket	●	●	——	●	●	●
VA-80BP Pendant Mounting Bracket	●	●	——	●	●	●
VA-80AC Corner Mounting Adaptor	●	●	——	●	●	●
VA-80AP Pole Mounting Adaptor	●	●	——	●	●	●
VA-80AB Adaptor Bracket	●	——	——	——	——	——
VA-CM8C Clear Dome Cover (Outdoor Housing)	●	——	——	——	——	——
VA-CM8S Smoked Dome Cover (Outdoor Housing)	●	——	——	——	——	——
VA-60H Heater board	——	——	——	●	●	●
VA-HDC4000 HDD Case	●	●	●	——	——	——
VA-HDK1 HDD Case Bracket	——	——	●	——	——	——
VA-HDB90 HDMI-Out Option Board	●	——	——	——	——	——
VCP-L07W1 Wide Conversion Lens	——	——	●	——	——	——
VAC-70 Camera Control Unit	——	——	●	——	——	——

(*Refer to individual specifications for more detail)

	IP				Speed Dome			
Model No	**VCC-HD2500P**	**VCC-HD2300P**	**VCC-HD2100P**	**VCC-HD4000P**	**VCC-9800P E**	**VCC-9700P E**	**VCC-9600P E**	**VCC-9500P E**
VA-80SA Power supply base	——	——	——	——	●	●	●	●
VA-84SA Power supply base	——	——	——	——	●	●	●	●
VA-82LAN H.264 / JPEG Network board	——	——	——	——	●	●	●	●
VA-SW3050S/C Network Recorder Software	●	●	●	●	●	●	●	●
VA-SW50 / VA-SW60 VMS	●	●	●	●	●	●	●	●
VA-80EX Outdoor Housing	——	——	——	——	●	●	●	●
VA-80FC / FS Surface Housing	——	——	——	——	●	●	●	●
VA-80A Attachment (Indoor use)	——	——	——	——	●	●	●	●
VA-80MEC / VA-80MES In-ceiling Housing	——	——	——	——	●	●	●	●
VA-80BW Wall Mounting Bracket	——	——	——	——	●	●	●	●
VA-80BP Pendant Mounting Bracket	——	——	——	——	●	●	●	●
VA-80AB Adaptor Bracket	——	——	——	——	●	●	●	●
VA-80AC Corner Mounting Adaptor	——	——	——	——	●	●	●	●
VA-80AP Pole Mounting Adaptor	——	——	——	——	●	●	●	●
VA-CM8C Clear Dome Cover (Outdoor Housing)	——	——	——	——	●	●	●	●
VA-CM8S Smoked Dome Cover (Outdoor Housing)	——	——	——	——	●	●	●	●
VAC-70 Camera Control Unit	——	——	——	●	●	●	●	●
VA-HDC4000 HDD Case	——	——	——	●	——	——	——	——
VCP-L07W Wide Conversion Lens	——	——	——	●	——	——	——	——

(*Refer to individual specifications for more detail)

Optional Combination Chart

	IP				
Model No	**VCC-XZN600P**	**VCC-ZMN600P**	**VDC-DPN9585P**	**VCC-PN9575P**	**VCC-N6695P**
VA-SW3050S/C Network Recorder Software	●	●	●	●	●
VA-SW50 / VA-SW60 VMS	●	●	●	●	●
VA-50AL Attachment	——	——	●	——	——
VA-50AM Attachment	——	——	——	——	——
VA-50AS Attachment	——	——	——	●	——
VA-50BW Wall Mounting Bracket	——	——	●	●	——
VA-50BPL Ceiling Suspension Bracket	——	——	●	●	——
VA-DK02 In-ceiling Bracket	——	——	●	●	——
VCZ-50 Smoked Cover	——	——	——	●	——
VCZ-51 Half-Mirror Cover	——	——	——	●	——
VA-50H Heater board	——	——	●	——	——
VAC-70 Camera Control Unit	●	●	●	●	——

* Available only with an optional board installed. (*Refer to individual specifications for more detail)

	Weatherproof		Zoom		Dome		Dome
Model No	**VCC-XZ600P**	**VCC-XZ200P**	**VCC-ZM600P**	**VCC-ZM500P**	**VDC-DP7585P**	**VCC-P7575PA**	**VDC-WD9885VP**
VA-SW3050S/C Network Recorder Software	——	●*	——	——	●*	●*	——
VA-SW50 / VA-SW60 VMS	——	●*	——	——	●*	●*	——
VA-50AL Attachment	——	——	——	——	●	——	●
VA-50AM Attachment	——	——	——	——	——	——	——
VA-50AS Attachment	——	——	——	——	——	●	——
VA-50BW Wall Mounting Bracket	——	——	——	——	●	●	●
VA-50BPL Ceiling Suspension Bracket	——	——	——	——	●	●	●
VA-60BX Base Bracket	——	——	——	——	——	——	●
VA-DK02 In-ceiling Bracket	——	——	——	——	●	●	——
VCZ-50 Smoked Cover	——	——	——	——	——	●	——
VCZ-51 Half-Mirror Cover	——	——	——	——	——	●	——
VA-60T Twisted pair board	——	——	——	——	——	——	●
VA-20LAN JPEG Network board	——	●	——	——	——	——	——
VA-20ST SSP+Twisted pair board	——	●	——	——	——	——	——
VA-50LAN JPEG Network board	——	——	——	——	●	●	——
VA-51LAN JPEG Network board (PoE) with Audio	——	——	——	——	●	●	——
VA-50ST SSP+Twisted pair board	——	——	——	——	●	●	——
VA-50H Heater board	——	●	——	——	●	——	——
VA-60H Heater board	——	——	——	——	——	——	●
VAC-70 Camera Control Unit	●	●	●	●	●	●	●

* Available only with an optional board installed. (*Refer to individual specifications for more detail)

Optional Combination Chart

	Dome					
Model No	**VDC-W1595VP**	**VDC-D1585VP**	**VDC-C1575VP**	**VCC-9785VP**	**VCC-W9875VP**	**VDC-D1785IRVP**
VA-SW3050S/C Network Recorder Software	—	—	—	—	—	—
VA-50AL Attachment	—	—	—	—	—	—
VA-50AM Attachment	●	●	●	—	—	—
VA-50AS Attachment	—	—	—	—	●	—
VA-50BW Wall Mounting Bracket	●	●	●	—	●	—
VA-50BPL Ceiling Suspension Bracket	●	●	●	—	●	—
VCZ-50 Smoked Cover	—	—	—	—	●	—
VCZ-51 Half-Mirror Cover	—	—	—	—	●	—
VA-20LAN JPEG Network board	—	—	—	—	—	—
VA-20ST SSP+Twisted pair board	—	—	—	—	—	—
VA-50LAN JPEG Network board	—	—	—	—	—	—
VA-51LAN JPEG Network board (PoE) with Audio	—	—	—	—	—	—
VA-50ST SSP+Twisted pair board	—	—	—	—	—	—
VA-50H Heater board	—	—	—	—	—	—
VAC-70 Camera Control Unit	—	—	—	—	●	—
VA-DK02 In-ceiling Bracket	●	●	●	—	●	—
VA-60T Twisted pair board	—	—	—	—	●	—
VA-10T Twisted pair board	—	—	—	—	—	—

* Available only with an optional board installed. (*Refer to individual specifications for more detail)

	Box				Cube
Model No	**VCC-6695P**	**VCC-6690P**	**VCC-4795P E**	**VCC-4790P E**	**VCC-5995P**
VAC-70 Camera Control Unit	—	—	—	—	—
VA-DK02 In-ceiling Bracket	—	—	—	—	—
LENS					
VA-13VG2811ASIR (f=2.8 to 11 mm) Standard Vari-focal IR Lens for 1/3" CCD Camera	●	●	●	●	●
VA-13VG308ASIR (f=3.0 to 8 mm) Standard Vari-focal IR Lens for 1/3" CCD Camera	●	●	●	●	●
VA-13VG550T-LY (f=5 to 50 mm) Tele Vari-focal Lens for 1/3" CCD Camera	●	●	●	●	●
VA-13VG308AS (f=3 to 8 mm) Standard Vari-focal Lens for 1/3" CCD Camera	●	●	●	●	●

(*Refer to individual specifications for more detail

Optional Combination Chart

	BOX			
Model No	**VCC-WD8875P**	**VCC-WD8770P**	**VCC-W8775P**	**VCC-W8770P**
VAC-70 Camera Control Unit	———	———	———	———
VA-DK02 In-ceiling Bracket	———	———	———	———
LENS				
VA-13VG2811ASIR (f=2.8 to 11 mm) Standard Vari-focal IR Lens for 1/3" CCD Camera	●	●	●	●
VA-13VG308ASIR (f=3.0 to 8 mm) Standard Vari-focal IR Lens for 1/3" CCD Camera	●	●	●	●
VA-13VG550T-LY (f=5 to 50 mm) Tele Vari-focal Lens for 1/3" CCD Camera	●	●	●	●
VA-13VG308AS (f=3 to 8 mm) Standard Vari-focal Lens for 1/3" CCD Camera	●	●	●	●

(*Refer to individual specifications for more detail)

	MPEG-4	JPEG2000	
Model No	**DSR-HB8000**	**DSR-5716P**	**DSR-5709P**
VA-EXH External HDD Unit	●*1	●*1	●*1
VA-EXD1 B Disc Writer Unit	———	●	●
VA-SW5000 CCTV system Management Software	———	●	●
DVR Utility 2000S	———	———	———
DVR Utility 2004	———	———	———
VZU-SATB1 S-ATA Board	———	●	●
VZU-SCB1 SCSI Board	———	●	●
VA-SPC1A S-ATA - PATA Conversion Board	———	●	●
VA-SPC2 S-ATA - PATA Conversion Board	———	———	———
VA-RACMK1 Rack Mount Bracket (1U)	———	———	———
VA-RACMK2 Rack Mount Bracket (2U)	———	●	●
VA-RACMK3 Rack Mount Bracket	———	———	———

*1 Requires a SATA card, which is sold separately. (*Refer to individual specifications for more detail)

	MPEG-4		
Model No	**DSR-2116**	**DSR-2108**	**DSR-2004**
VA-EXH External HDD Unit	———	———	———
VA-EXD1 B Disc Writer Unit	———	———	———
VA-SW5000 CCTV system Management Software	———	———	———
DVR Utility 2000S	●	●	———
DVR Utility 2004	———	———	●
VZU-SATB1 S-ATA Board	———	———	———
VZU-SCB1 SCSI Board	———	———	———
VA-SPC1A S-ATA - PATA Conversion Board	———	———	———
VA-SPC2 S-ATA - PATA Conversion Board	———	———	●
VA-RACMK1 Rack Mount Bracket (1U)	———	———	———
VA-RACMK2 Rack Mount Bracket (2U)	———	———	———
VA-RACMK3 Rack Mount Bracket	●	●	———

Digital Video Recorder

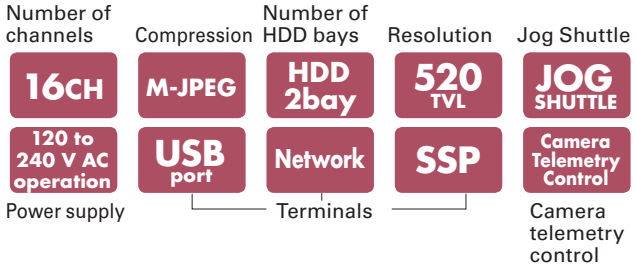
Digital Technology Offers Multi-functional Recording with Superior Picture Quality Networking for Remote and Round-the-Clock Surveillance

Network

Each unit in the DSR series features a Network terminal. Monitoring live video, playing back and reviewing recordings, starting a new recording, searching for recorded images, camera control, camera setup — all operations are possible from a PC with a network connection (using Internet Explorer version 5.0 or newer or Utility Software). It also enables the user to download recorded video and audio onto the PC.

Recorder Function Explanation

■ **Legends**



16CH Multi-screen Display

For both live picture monitoring (during multiplex recording) and playback of recorded pictures, the user can select from 16-screen display, 9-screen display, 4-screen display, and full-screen display.

- 4-screen display • Full-screen display
- Screen position assignment* • Monitor masking

* Does not apply to the DSR-2xxx series.

JOG SHUTTLE Jog Shuttle
(* Also used to select menu options.)

Jog Dial

Simply by turning the Jog Dial with your finger to the left or right, the monitored images can be made to run forward or backwards for easy checking.

Shuttle Ring

Simply by turning the Shuttle Ring to the left or right, you can switch from playback to forward or reverse playback, or forward or reverse search. From pause, you can switch to forward or reverse slow-motion playback, normal speed playback, or search. Operation of these functions is easy, allowing very efficient searching.

1 Built-in Motion Sensor

DSR series comes with a built-in motion sensor. Different settings can be made for each camera image independently. The sensor can detect moving objects within the screen by picking up changes in brightness. The user can use this feature to trigger an alarm recording.

2 Mirror Recording

With two HDD's of the same capacity installed, it is possible to record the same video on both of them, thus allowing for a backup.

3 Timer Recording

Uniform daily programming or independent programming for each day of the week are both available. Further, holidays* can be entered by specifying the date and the

month for which Sunday programming should be applied.
* The DSR-2xxx series does not support the holiday setting.

4 Alarm Recording
When an alarm signal is received from an external sensor, the recorder will automatically start recording in a mode predetermined by the user.

5 Alarm Counter
This feature allows the user to keep and display records of the date and time of alarms.

6 Video Loss Alarm
When the video signal feed is lost due to one of the following reasons, a buzzer sounds and the word "VIDEO LOSS" is displayed on the screen.
1. Wire breakdown
2. Disconnection of video terminal
3. Loss of power on a camera or other intermediary equipment

7 Disc Full Alarm
During a recording, an alarm can be set to give off a buzzer sound, along with a message on the display.

8 Fan Error / Disc Error
A beep will sound when an error occurs on the fan or the disc.

9 Time / Date Search
Searching recorded pictures is available by specifying the time and date.

10 Alarm Search
A list of up to 8 stored recordings (alarm number, recording date and time) along with a preview window offers the user an easy way of searching and playing back a particular event. You can easily switch to a full screen display and display a still picture, or perform a fast-forward search simply by turning the shuttle or jog dial or key button.

11 Alarm Thumbnail Search
It is possible to display up to 9 thumbnails for video recordings in the alarm area along with their respective alarm numbers. This feature allows the user to search for a particular event without playing back each recording.

12 Alarm Log Search
A search is narrowed using a log file by selecting the time, minute, month, and the day of the week on a GUI, and then the desired scene can be selected.

13 Motion Detection Search
By setting a motion sensor on the screen, any scene with motion in the specified area will be brought up for further review.

14 Archive Area Search
A list of up to 8 stored recordings (copied to archive area, recording date and time), along with a preview window, offers the user an easy way of searching and playing back a particular event. You can easily switch to a full screen display and show a still picture, or perform a fast-forward search simply by turning the shuttle or jog dial.

Camera Telemetry Control

Camera Telemetry
The DVR can be used to control connected cameras.

15 Security Lock
To prevent unauthorized manipulation or accidental operation while recording, the user can lock the functionality of the operation buttons, the jog dial, and the shuttle ring. There are two types of security lock: a quick method security lock and a 4 digit security lock.

16 Auto Delete Function
The allows the user to specify the storage period for each video clip, from one day up to 99 days.
When the specified period expires, the data will be automatically deleted.

17 30-day Memory Back-up
A built-in lithium battery is used to protect various DVR settings for 30 days.

18 Lifetime Counter
The monitor screen displays "used-time" counter (total power-on time.)

19 Buzzer
An alarm is indicated by a beep.

20 SMTP
An alarm can trigger an e-mail message sent to a preset address.

VGA output

VGA Output
Provides an analog RGB component video signal output for a monitor.

USB port

USB Terminal
Useful in connecting an external disk writer and/or USB Memory device.

21 Local Back-up / Copy
Increases data portability Video downloading and MENU uploading / downloading by allowing the use of a compact flash memory.

Network

Network Terminal
There is a built-in 100BASE-TX / 10-BASE-T LAN terminal, allowing remote surveillance / control from PC via network.

SSP

SSP (RS-485/422) Compatible
By using SSP (SANYO Security Serial Protocol), cameras, multiplexers, DVRs and VCRs in a daisy chain over a distance of up to 1200m (4000 feet) can be controlled centrally with just one controller.

22 RS-232C Compatible
With RS-232C compatible recorders various operations are possible from an external computer.
*Only DSR-HB8000

Type	Hibrid DVR	High-end DVR		MPEG-4		
DVR Model						
	DSR-HB8000	DSR-5716P	DSR-5709P	DSR-2116	DSR-2108	DSR-2004
	Max HDD Capacity (Technically) per one bay			Max HDD Capacity		
Hard Disk Capacity	2TB	2TB	2TB	1TB	1TB	1TB
Horizontal Resolution	520 TVL	520 TVL	520 TVL	500 TVL	500 TVL	250 TVL
Recording Speed (IPS)	400	100	100	200	100	100
Compression	MPEG-4 MPEG-4+	JPEG2000	JPEG2000	MPEG-4	MPEG-4	MPEG-4
Pixel	720 x 576 720 x 288 360 x 288	720 x 288	720 x 288	704 x 576 704 x 288 352 x 288	704 x 576 704 x 288 352 x 288	704 x 576 352 x 288
Multi-screen Display	4 / 9 / 16 -screen, Plus display	4 / 9 / 16 -screen, Plus display	4 / 9-screen, Plus display	4 / 9 / 16 -screen,	4 / 8 -screen,	4-screen
Jog Shuttle	—— (Mause opertion)	●	●	——	——	——
1 Built-in Motion Sensor	●	●	●	●	●	●
2 Mirror Recording	●	●	●	——	——	——
3 Timer Recording	●	●	●	●	●	●
4 Alarm Recording	●	●	●	●	●	●
5 Alarm Counter	——	●	●	——	——	——
6 Video Loss Alarm	●	●	●	●	●	●
7 Disk Full Alarm	●	●	●	——	——	——
8 Fan Error / Disc Error	●	●	●	—— / ●	—— / ●	—— / ●
9 Time / Date Search	●	●	●	●	●	●
10 Alarm Search	●	●	●	●	●	●
11 Alarm Thumbnail Search	●	●	●	——	——	——
12 Alarm Log Search	●	●	●	●	●	●
13 Motion Detection Search	●	●	●	——	——	——
14 Archive Area Search	——	●	●	——	——	——
Camera Telemetry	●	●	●	●	●	●
15 Security Lock	●	●	●	●	●	●
16 Auto Delete Function	●	●	●	●	●	——
17 30-day Memory Back-up	●	●	●	●	●	●
18 Lifetime Counter	●	●	●	●	●	——
19 Buzzer	●	●	●	●	●	●
20 SMTP	●	●	●	●	●	●
VGA Output	●	——	——	●	●	●
USB Terminal	●	●	●	●	●	●
21 Local Back-up / Copy	USB / CD / DVD	USB	USB	USB / CD / DVD	USB / CD / DVD	USB
Network Terminal	●	●	●	●	●	●
SSP (RS-485) Compatible	●	●	●	●	●	——
22 RS-232C Compatible	●	——	——	——	——	——
Software	CMS / DVR Utility	VA-SW5000 (packaged)	VA-SW5000 (packaged)	DVR Utility 2000S (packaged)	DVR Utility 2000S (packaged)	DVR Utility 2000S (packaged)
Power Source	100 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	120 V to 240 V AC, 50/60 Hz	100 V to 240 V AC, 4A	100 V to 240 V AC, 4A	Input 100 V to 240 V AC, 50/60 Hz Output 12 V DC
Power Consumption	8A (AC100 V) 4A (AC240 V)	720 mA	720 mA	70 w	65 w	25 w /12 V
Dimensions (W x H x D) mm	431 x 177 x 458	420 x 96 x 365	420 x 96 x 365	432 x 98 x 349	432 x 98 x 349	350 x 65 x 260
Page	47	49	49	51	51	51

Refer to "Recorder Function Explanation"

Table of recording rate and times

DSR-5716P / DSR-5709P **750 GB**

Recording Speed		Picture Quality					Audio Recording
IPS	Recording Interval (sec.)	Basic 12 kB	Normal 16 kB VHS (EP)	Enhanced 24 kB VHS (SP)	Fine 32 kB S-VHS	Super Fine 40 kB S-VHS+	
		Recording Time (unit: hour)					
100.00	0.01	130	102	71	53	42	Available
50.00	0.02	260	206	140	108	86	
25.00	0.04	518	413	281	213	10	
16.67	0.06	778	618	420	318	258	
12.50	0.08	1,038	825	560	425	342	
8.33	0.12	1,558	1,238	840	638	513	
6.25	0.16	2,077	1,647	1,121	851	683	
5.00	0.20	2,595	2,060	1,403	1,062	855	
4.17	0.24	3,112	2,471	1,680	1,272	1,025	
3.57	0.28	3,635	2,885	1,962	1,488	1,197	
3.13	0.32	4,145	3,293	2,238	1,695	1,365	
2.78	0.36	4,667	3,596	2,520	1,910	1,538	
2.50	0.40	5,190	4,122	2,802	2,123	1,710	
2.27	0.44	5,715	4,541	3,087	2,337	1,883	
1.92	0.52	6,758	5,367	3,650	2,765	2,225	
1.67	0.60	7,770	6,170	4,196	3,177	2,558	
1.47	0.68	8,827	7,010	4,767	3,611	2,907	
1.32	0.76	9,830	7,805	5,307	4,020	3,,237	
1.19	0.84	10,903	8,658	5,888	4,460	3,590	
1.09	0.92	11,903	9,453	6,428	4,871	3,920	
1.00	1	12,975	10,302	7,008	5,307	4,272	
0.50	2	25,950	20,607	14,013	10,616	8,546	Not available
0.33	3	39,317	31,223	21,233	16,085	12,945	
0.25	4	51,898	41,216	28,025	21,233	17,088	
0.20	5	64,873	51,518	35,033	26,540	21,360	
0.10	10	129,747	103,035	70,062	53,078	42,723	
0.05	20	259,493	206,067	140,127	106,158	85,443	
0.03	30	432,490	343,448	233,546	176,928	142,406	

Reference: 24H = 1 day, 168H = 1 week, 720H = 1 month, 8760H = 1 year

* The recording time may vary slightly depending on the complexity of the images and the presence of an audio signal.
* The recording time will change depending on the settings for the storage area, and the availability of an optional HDD. Contact the place of purchase for details on increasing the capacity by adding a HDD.

Optional External Unit (sold separately)

Optional units for the expansion of the DSR series, depending on the main unit used.

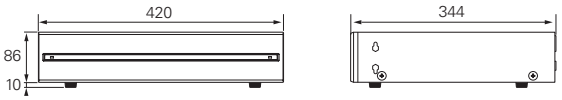
External HDD unit VA-EXH

The VA-EXH is an expansion unit that employs four HDD bays and enables further extension of recording time.
for DSR-HB8000 / DSR-5716P / DSR-5709P
* Requires VZU-SATB1.

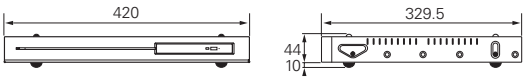
Disc writer VA-EXD1 B

This external DVD / CD-Writer is a perfect match for DSR-5716P / DSR-5709P

VA-EXH



VA-EXD1 B



(Unit: mm)

SANYO DVR Utility Software

The combination of DSR-2116 / DSR-2108 and SANYO DVR Utility 2000S or DSR-2004 and DVR Utility 2004 enables monitoring and DSR operation via a network for enhanced usability. Utility software (Max. 4 connection)

System environment

OS	Windows® XP Professional (SP2), Windows® XP Home Directx®8.1 or above
CPU	Intel Pentium® 4 - 1.2GHz or higher
MEMORY	Minimum 256 MB (512 MB or higher Recommended)
VGA	16 MB (64MB Recommended)
Resolution	1024 x 768
Disk capacity	10MB (More than 2.1 GB when using Sanyo recording software)

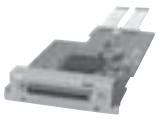
Optional Accessories (sold separately)

S-ATA Board VZU-SATB1 for VA-EXH

The VZU-SATB1 enables the connection to an external HDD unit.

SCSI Board VZU-SCB1

The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase.



S-ATA Conversion Board VA-SPC1A

for DSR-5716P / DSR-5709P
A PATA-SATA Conversion Board.

S-ATA Conversion Board VA-SPC2

for DSR-2004
A PATA-SATA Conversion Board.

Rack Mount Bracket VA-RACMK1 for VA-EXD1 B

Rack Mount Bracket VA-RACMK2

for DSR-5716P / DSR-5709P / VA-EXH

Rack Mount Bracket VA-RACMK3

for DSR-2116 / DSR-2108

16ch MPEG-4 Hybrid Digital Video Recorder

DSR-HB8000

16CH | MPEG-4 | HDD 3bay+ 2bay W/S-ATA card | 520 TVL | 120 to 240 V AC operation

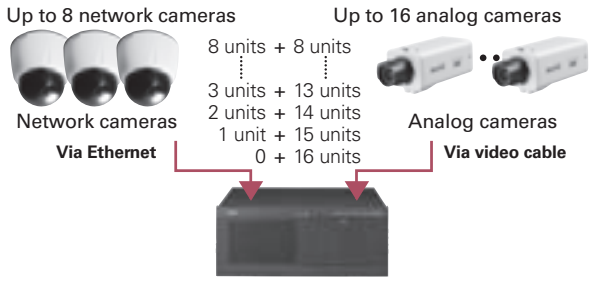
VGA output | 4 USB port | Network | SSP | Camera Telemetry Control

MPEG-4

The MPEG (Moving Picture Experts Group) -4 standard was designed to reproduce a wide range of moving pictures from those on a low speed communication line to those with high-definition TV picture quality. Also available is SANYO's proprietary format, the MPEG-4+ mode, which requires fewer resources. It is more advantageous in networks, enabling smooth video reproduction with a special playback operation.

Digital security system is composed of analog and network cameras in a system

The DSR-HB8000 is a hybrid model that is capable of connecting and controlling network cameras* and conventional analog cameras simultaneously. *Supported by JPEG only



Simultaneous Recording and Playback (Max. 720 x 576 pixels per channel)

Camera Telemetry Control

DSR-HB8000 is capable of controlling PTZ dome cameras and zoom cameras through coaxial cables or RS-485. It also allows this control from a network PC or a controller. The unit also supports protocols of other major brands.

Full-motion, Multiple Screen Display of Live Video Images

The monitor can display different video images from 4ch up to 16ch simultaneously, in addition to displaying a single channel in full-screen mode.

Add Text Information on the Surveillance Video

Recorded images can be looked up using the text data in the electronic journal. The AVE Interface provides access to the journal data containing information on a POS system or ATM terminals. For example, a transaction record on such systems can identify the operator, the time and date, the terminal, or the customer for any deposit, withdrawal, or exchange. This will serve as a valuable tool in enhancing the security system.

Extensive Search Functions

One Channel Search: Searches for recorded video on a specific channel and plays it back.

Time/Date Search: Playback recorded video by specifying date and time.

Thumbnail Search: Displays a list of up to 24 images from the checked video in panorama mode.

Motion Search: Using motion detection, searches for video containing moving objects.

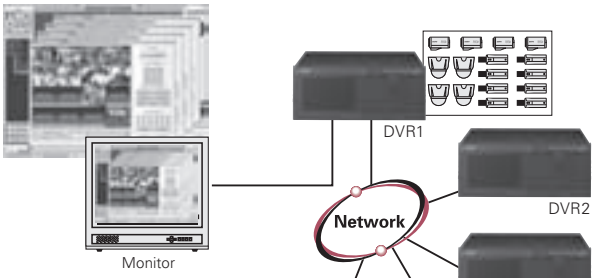
Time Bar Search: Displays a data mapping of recorded video on all channels and playback multiple video in multi-screen.

Text Search: Searches for texts and video using keywords in a POS (Point of Sales System) recording data.

Alarm Log Search: Searches for video from an event list.

Monitor Plus

By connecting four DSR-HB8000 units via a network, this feature offers a capability to view all 80 camera images on the main DSR-HB8000 unit.

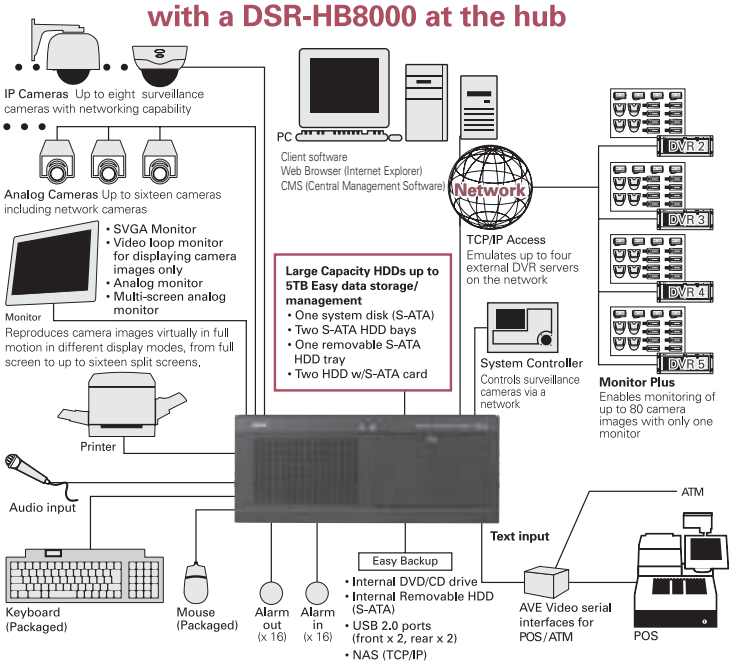


This monitor can view all 80 cameras
16 cameras on DVR 1
16 cameras on DVR 2
16 cameras on DVR 3
16 cameras on DVR 4
16 cameras on DVR 5

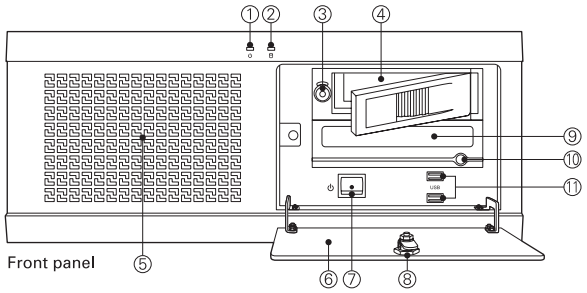
Easy and Secure Backup

With the DSR-HB8000, the user can simply click on the Data Back-up icon on the Surveillance screen to store and manage a large amount of information on the network. In addition to the built-in HDD, a CD-R, CD-RW, or DVD on the integrated CD / DVD drive or a memory stick on the USB port can be selected as a backup destination.

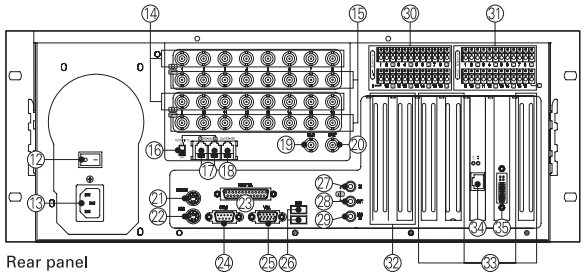
Conceptual diagram for a network with a DSR-HB8000 at the hub


IP Cameras Up to eight surveillance cameras with networking capability
Analog Cameras Up to sixteen cameras including network cameras
Monitor
• SVGA Monitor
• Video loop monitor for displaying camera images only
• Analog monitor
• Multi-screen analog monitor
Reproduces camera images virtually in full motion in different display modes, from full screen to up to sixteen split screens.
Printer
Audio input
Keyboard (Packaged)
Mouse (Packaged)
Alarm out (x 16)
Alarm in (x 16)
PC
Client software
Web Browser (Internet Explorer)
CMS (Central Management Software)
Network
TCP/IP Access
Emulates up to four external DVR servers on the network
Large Capacity HDDs up to 5TB Easy data storage/ management
• One system disk (S-ATA)
• Two S-ATA HDD bays
• One removable S-ATA HDD tray
• Two HDD w/S-ATA card
System Controller
Controls surveillance cameras via a network
Monitor Plus
Enables monitoring of up to 80 camera images with only one monitor
DVR 2
DVR 3
DVR 4
DVR 5
Easy Backup
• Internal DVD/CD drive
• Internal Removable HDD (S-ATA)
• USB 2.0 ports (front x 2, rear x 2)
• NAS (TCP/IP)
Text input
ATM
POS
AVE Video serial interfaces for POS/ATM

Locations of Controls



① Power indicator
② HDD access indicator
③ Removable HDD lock
④ Removable HDD
⑤ Ventilating hole
⑥ Front panel cover
⑦ POWER button
⑧ Front panel lock
⑨ DVD-R/RW / CD drive
⑩ DVD / CD open/close button
⑪ USB 2.0 ports



⑫ Power switch
⑬ Power socket (AC IN)
⑭ Video input terminals
⑮ Video throughout terminals
⑯ RS-485 termination switch
⑰ RS-485 ports
⑱ RS-485 (2nd port)
⑲ Monitor outputs (MON 1)
⑳ Monitor outputs (MON 2)
㉑ Mouse port
㉒ Keyboard port
㉓ Parallel port
㉔ RS-232C port
㉕ VGA port
㉖ USB 2.0 ports
㉗ Audio line input
㉘ Audio line output
㉙ Mic input
㉚ Alarm inputs
㉛ Alarm outputs (D/O)
㉜ PCI express slots
㉝ PCI slots
㉞ LAN (Gigabit)
㉟ Audio 16 inputs (for camera)

Supports NAS

Firmware version. No.:1.1.1 or later

A NAS* (Network Attached Storage) is a single-purpose server (server appliance) that consists of a hard disk drive, network interface, OS, and management utilities. Since a NAS serves as an independent file server that allows network file sharing, DSR-HB8000 allows the user to store backup files on three different NAS systems. The built-in file system and network communication capability makes it easy to configure a system or make an addition to existing systems.

* DSR-HB8000 DVR Utility software allows access to backup data enabling the user to replay stored video or extract data.

*NAS:
NAS is a general term referring to storage that is accessible by the use of LAN (Ethernet, FDDI, etc.) connected file systems, such as a NFS (Network File System) or a CIFS (Common Internet File System).

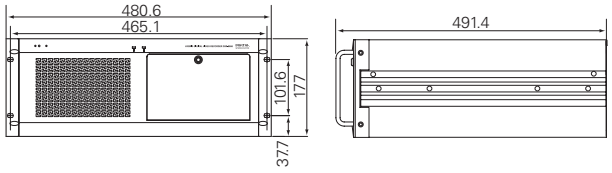
Model		DSR-HB8000
General	Hard disk capacity	One System Disk (S-ATA) + Two S-ATA HDD Bays + One Removable S-ATA HDD Tray + Two HDD w/S-ATA card (option) x 2 Max. HDD Capacity 5TB
	CPU	Intel Pentium® 4 3.00GHz
	Operating system	Microsoft Windows® XP Embedded
	Picture resolution (pixels)	720 x 576, 720 x 288, 360 x 288
	Video codec	MPEG-4, MPEG-4+
	Audio codec	G.721, 8kHz sampling rate
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)
	Recording speed	400IPS/16ch (CIF), 200IPS/8ch (Half D1), 100IPS/4ch (D1)
	Still image capture (BMP/JPEG)	720 x 576, 720 x 288, 360 x 288
	Number of cameras	16 (IP camera: 8 units max.)
	Menu language	English / French / Spanish / German / Italian
	Telemetry Control Protocol	COAX: SANYO (H-SSP) / PELCO-C, BBV RS-485: SANYO (SSP) / PELCO-D / VICON / ULTRAK KALATEL / VCL / BBV / AMERICAN DYNAMICS
Search mode		One Channel Search, Time/Date Search, Thumbnail Search, Motion Search, Time Bar Search, Alarm Log Search Text Search
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 400IPS
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16
	Video output	BNC x 16 (Loop through), VGA x 1*1
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1*1
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 Ω BNC x 1
Audio	Audio input	16ch: MicroCross connector x1 (rear)
	Audio output	-8 dBs 600 Ω unbalanced mini jack x 1 (rear)
Display	Speed (Live)	Max. 400IPS (16 screen split)
	Emulation	Monitor Plus (Up to total 5 DVRs display)
	Screen split	1, 4, 7, 8, 9, 10, 13, 16
Backup storage support		Internal DVD / CD drive, Internal Removable HDD (S-ATA), USB 2.0 x 4 (front x 2, rear x 2), NAS (TCP/IP)
Network	Interface	ADSL, LAN / DDNS
	LAN	RJ-45 x 1, LAN: 10/100/1000BASE-TX) Compatible protocol: UDP, TCP/IP, HTTP, DHCP, SMTP, NTP, PPP server
Control Signal	RS-485	RJ-11 x 2, (With a termination switch)
	RS-485 (2ND)	PTZ port x 1
	RS-232C	D-sub 9-pin x 1
	USB	USB 2.0 x 4 (Front x 2, Rear x 2)
	Sensor alarm input (Push lock)	No-volt contacts, (100ms or more) x 16
	Alarm output (Push lock)	Open collector, Low level active (Max. 25 mA) x 16, Relay output
	Mouse control input	PS / 2 x 1
	Keyboard input	PS / 2 x 1
Expansion slot		PCI x 5 (PCI-express x 2, PCI x 3)
Electrical	Power source	100 V to 240 V AC, 50 / 60Hz
	Power current	8A (100 V AC), 4A (240 V AC)
	Operating conditions	Temperature: 5°C to 40°C (41°F to 104°F) Humidity: 30 to 80%RH (non-condensing)
	Storage temperature	-5°C to 60°C (23°F to 140°F)
Physical	Dimensions	431(W) x 177(H) x 458(D) mm [17.0(W) x 7.0(H) x 18.0(D) in] —mountable as 4U rack unit
	Net weight (approx.)	21.8 kg (44.1 lbs.) (HDD x 4, DVD-R/W x 1)
Standard accessories		Keyboard x 1, Mouse x 1, AC power cord (European x 1, North American x 1), S-ATA cable x 2, Audio conversion cable, Rack mounting kit (1 set), Removable HDD key x 2, Front panel key x 2 DVD-ROM x1 (Recover disc:Windows XP), CD-ROM x1 (Application disc: Operation / programming manual)
Option		S-ATA*2 card (Support add S-ATA HDD x 4), POS/ATM

NOTE: Specifications subject to change without notice

*1 Either the video output or VGA output can be enabled at any one time.
*2 For the detail contact the place of purchase.

Warnings regarding HDDs
- Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
- The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
- Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.
- "Microsoft" is registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- All other company and product names are registered trademarks and/or trademarks of their respective owners.

DSR-HB8000



(Unit: mm)

16ch Digital Video Recorder

DSR-5716P

Made in Japan

16CH | JPEG 2000 | HDD 2bay | 520 TVL | JOG SHUTTLE
VGA output | USB port | Network | H-SSP only | Camera Telemetry Control

9ch Digital Video Recorder

DSR-5709P

Made in Japan

9CH | JPEG 2000 | HDD 2bay | 520 TVL | JOG SHUTTLE
VGA output | USB port | Network | H-SSP only | Camera Telemetry Control

A High-end Recorder Offering 100 IPS in JPEG2000 Enables extended recording in superior picture quality. It's an advanced model with new network features.

An all-in-one Unit with Superior Expandability that Also Serves as a System Hub

The DSR-5716P / DSR-5709P processes a variety of signals — digital, SSP, network — and can play the role of a system hub. It offers clear picture recording and split-screen surveillance and comes with USB ports. Its video terminals enable multi-screen real-time monitoring at 800 IPS for DSR-5716P and 450 IPS for DSR-5709P. And it comes with a telemetry function that offers control over PTZ / zoom cameras, including those supplied by other manufacturers. It is an all-new unit that is capable of accommodating even the most sophisticated surveillance need.

Extended Recording Time

JPEG2000 improves picture quality without increasing the size of the data file, or maintains current quality with a reduced file size. This means you get more recording time from the same HDD capacity.

Simultaneous Recording and Playback at 100 IPS (720 x 288 pixels)

SANYO's expertise in the field has made it possible to record and playback simultaneously at a maximum speed of 100 IPS.

Exclusive Extension Units

The VA-EXH, an external HDD unit for further extending recording time, and the VA-EXD1 B, a disc writer for backing-up or copying data to portable media, are both available for the DSR-5716P / DSR-5709P.
(Note) The S-ATA board VZU-SATB1 is needed when connected to the external HDD unit, VA-EXH.

ROI (Region of Interest)

ROI is one of the advanced features included in the JPEG2000 compression method. By setting ROI, it is possible to apply better picture quality for particular areas preset on the screen. The ROI area setting is up to the user.

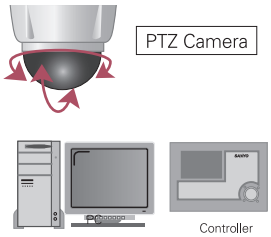
ROI: OFF BASIC mode (12KB)
Use the same amount of data ...

ROI: MAX Static ROI recording (12KB)
for enhancing the picture quality of regions of interest

Camera Telemetry Control

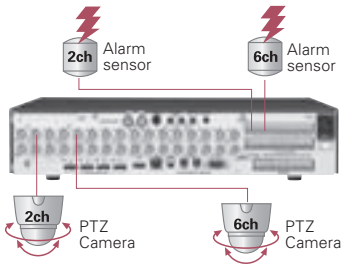
The DSR-5716P / DSR-5709P are capable of controlling PTZ dome cameras and zoom cameras through coaxial cables or RS-485. It also allows this control from a network PC or a controller. The unit also supports protocols of other major brands.

Camera control (PTZ cameras & zoom cameras only) available from the front panel, PC or a controller



Camera with no Alarm Input Controlled by an External Alarm

Through this unit, an external alarm can prompt PTZ cameras such as VCC-9500P E / VCC-9600P E / VCC-9700P E / VCC-9800P E to return to preset positions and perform other operations. There are four operations available — PRESET, TOUR, AUTO PAN and SEQUENCE.
*This control is activated only when the setting of alarm recording is ON and the setting of alarm trigger is the external alarm.



Built-in VGA (1024 x 768 pixels) Terminal

The VGA terminal allows direct connection to a PC monitor, which can then be used to monitor surveillance video. It also enables remote terminals to replay video with VGA quality, thus improving the thoroughness of monitoring.

Supports up to 2TB HDD par one bay

The unit has two HDD bays, each supporting up to 2TB HDD to make the unit the right choice in today's trend for bigger drives. Selecting a drive of the same capacity will allow the use of the mirroring* function for data backup.
For the latest available range of optional drives, contact the place of purchase.

* Mirror Recording
DSR-5716P / DSR-5709P each comes with two HDD bays. With two HDDs of the same capacity installed, it is possible to record the same video on two HDDs, thus allowing for a backup.

Alarm Log Search
Recordings made during a particular period are shown in a user-friendly GUI. By designating the hour, minute, month, or day of the week of alarm events, a search is performed on a log file to narrow the search and bring up the desired scene.

Multi Alarm Events Copy
Now it is possible to copy recorded video and audio directly to external media without the use of the archive area. This allows the user to retrieve desired video quickly.

CD-R/RW, DVD+R/+RW
The unit comes with two USB ports located on both the front and rear panels. Using one of these terminals, it is possible to backup data to CD-R/RW discs (Max. 640MB), DVD+R/+RW (Max. 4.6GB). The use of discs ensures secure storage of necessary video and audio data.
*Recommended products only

USB Ports
The DSR-5716P and DSR-5709P come with two USB ports, one each on the front and rear panel. The front USB port is handy for using USB memories, for features such as Downloading and Uploading in the setup menu, newly added firmware update, and downloading images. The rear port can be used to connect VA-EXD1B, which enables the downloading of images to a CD or DVD.
*When the front and rear USB ports are used simultaneously, the front port is always given priority.

Independent Alarm Recording Rate for Each Channel
The unit lets the user set different rates of recording for each camera for recordings activated by the motion sensor or an alarm input. Within the preset time frame, the user has freedom to change the recording rate for each camera according to needs.

Optional (sold separately)

External HDD unit VA-EXH
VA-EXH up to four HDDs enables a drastic increase in recording capacity.

Disc writer VA-EXD1 B
Backup important data on DVD+R/RW discs or CD-R/RW discs with the USB connection.

S-ATA Board VZU-SATB1 for VA-EXH
The VZU-SATB1 enables the connection to an external HDD unit.

SCSI Board VZU-SCB1
The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase.

Rack Mount Bracket VA-RACMK2
for DSR-5716P / DSR-5709P / VA-EXH

Rack Mount Bracket VA-RACMK1
for VA-EXD1 B

Choosing Live Picture Resolution at Remote Terminals
When the main unit is set to record video at basic quality, you can still choose enhanced quality for monitoring live video on a remote PC. It is also possible to record super-fine quality pictures on the main unit and monitor the basic quality video on a terminal to reduce network load. In short, the unit allows the user to choose the quality of live video independently, regardless of its recording mode. *This does not apply when the recording is done at the maximum rate of 100IPS.

Model		DSR-5716P	DSR-5709P
General	Hard disk capacity	Max HDD Capacity (Technically) per one bay 2TB	
	Picture resolution	720 x 288 (pixels)	
	Compression	JPEG2000	
	Picture quality	5 levels (Basic, Normal, Enhanced, Fine, Super Fine)	
	Recording speed	28 levels. (100 to 0.033 FPS)	
	Recording area	Recording area / Archive area	
	Number of cameras	16	9
	Menu language	English / French / German / Spanish	
	Date / Clock setup	Day / Month / Year (last two digits) / Hour / Minute / Second	
	Magnification	2x digital zoom using the [ZOOM] button	
Search mode		Alarm Log Search, Alarm Search, Alarm Thumbnail Search, Time/Date Search, Archive Area Search, Motion detection Search, Bookmark Search	
Memory backup		Approximately 30 days (for 48 hours of electrification)	
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 50 IPS	
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 9
	Video output	BNC x 16	BNC x 9
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1, VGA x 1	
	Monitor 2 output	VBS / VS 1.0 V (p-p) 75 Ω BNC x 1	
	VGA output	Dsub-15 pin	
Audio	Audio input	-8 dBs 27 kΩ unbalanced RCA x 1	
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1	
Control Signal	LAN	10BASE-T / 100BASE-TX, RJ-45 x 1 Compatible protocol: UDP, TCP/IP, HTTP server, NTP, SMTP, DHCP	
	RS-485 / 422	RJ-11 x 2, (With a termination switch)	
	USB	USB2.0 Series terminal x 2 (Front x 1, Rear x 1)	
	Alarm input	No-volt contacts (100ms or more) x 16	No-volt contacts (100ms or more) x 9
	Alarm output	Relay (DC24 V Max. 1A / AC125 V Max. 0.3 A)	
	Sensor alarm output	Open collector, Low level active (Max. 25 mA) x 16	Open collector, Low level active (Max. 25 mA) x 9
	Remote control input	Two-wire voltage control x 2	
	Non rec out	Normal 5 V DC, Low level active x1	
	Clock set input	No-volt contacts (100ms or more) x 1	
	Clock set output	Active low, Open collector Max. 25mA x 1	
	Alarm reset	No-volt contacts (100ms or more) x 1	
	Warning output	Normal DC 5 V Low level active x 1	
	Disk full output	Normal DC 5 V Low level active x 1	
	Output 1 / Output 2	Normal DC 5 V Low level active x 1	
	External timer input	No-volt contacts (100 ms or more) x1	
Protocols		SANYO, Pelco, GE, AD, BBV	
Expansion slot		Option SCSI board (Ultra 160 SCSI), Option S-ATA board	
Electrical	Power source	120 V to 240 V AC, 50 / 60 Hz	
	Power consumption	720mA	
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less	
Physical	Dimensions	420(W) x 96(H) x 365(D) mm [16.5(W) x 3.8(D) x 14.4(D) in]	
	Weight (Approx.)	6.1 kg [13.5 lbs.] (without HDD), 6.6 kg [14.6 lbs.] (with one HDD) 7.2 kg [15.9 lbs.] (with two HDDs)	

NOTE: Specifications subject to change without notice

Warnings regarding HDDs
- Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
- The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
- Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.
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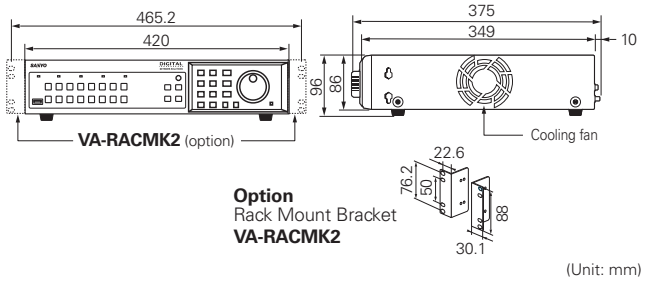
DSR-5716P / DSR-5709P



(Unit: mm)

16ch Digital Video Recorder
DSR-2116

16CH | MPEG-4 | HDD 2bay | 500 TVL | VGA output
USB port | Network | SSP | Built-in DVD-R/RW | Camera Telemetry Control

8ch Digital Video Recorder
DSR-2108

8CH | MPEG-4 | HDD 2bay | 500 TVL | VGA output
USB port | Network | SSP | Built-in DVD-R/RW | Camera Telemetry Control

4ch Digital Video Recorder
DSR-2004

4CH | MPEG-4 | HDD 1bay | 250 TVL | VGA output
USB port | Network | | | Camera Telemetry Control

16-4ch Monitoring with Quality Picture of MPEG-4 and Full Motion Picture of 200 IPS* *Only DSR-2116

Low Rate but High Quality
Since MPEG-4 offers quality pictures at a low bit-rate, it is possible to record pictures for a considerably longer time compared to JPEG.

Network
DSR-2116 / DSR-2108 / DSR-2004 offers network connectivity with LAN and WAN. MPEG is an international standard for highly efficient digital encoding (compression) of video and audio signal and is indispensable for video signal compression and transmission over a network. Compared to conventional systems, DSR-2116 / DSR-2108 / DSR-2004 offers improved surveillance video transmission — clear pictures at low bit-rate — by the adoption of MPEG-4.

Simultaneous Recording/Playback at 200 IPS DSR-2116
The DSR-2116 offers the capability to smoothly record and playback movement at a maximum rate of 200IPS. It also features two HDD bays, enabling expansion of storage capacity up to 1TB.

SANYO DVR Utility software

The combination of DSR-2116 / DSR-2108 / DSR-2004 and SANYO DVR Utility enables monitoring and DVR operation via a network for enhanced usability.

System environment

OS	Windows® XP Professional (SP2), Windows® XP Home DirectX® 8.1 or above
CPU	Intel Pentium® 4 - 1.2GHz or higher
MEMORY	Minimum 256 MB (512 MB or higher Recommended)
VGA	16 MB (64MB Recommended)
Resolution	1024 x 768
Disk capacity	10 MB (More than 2.1 GB when using Sanyo recording software)

Model		DSR-2116	DSR-2108	DSR-2004
General	Hard disk capacity	Max HDD Capacity per one bay 1TB		
	Picture resolution	704 x 576, 704 x 288, 352 x 288 (pixels)		704 x 576, 352 x 288 (pixels)
	Compression	MPEG-4		
	Picture quality	5 levels (Network, Economy, Basic, Normal, Fine)		3 levels (Basic, Normal, Fine)
	Recording speed	200 IPS (352 x 288/ch), 100 IPS (704 x 288/ch), 50 IPS (704 x 576/ch)	200 IPS (352 x 288/ch), 100 IPS (704 x 288/ch), 25 IPS (704 x 576/ch)	100IPS / 4ch (352 x 288/ch), 25 IPS / 4ch (704 x 576/ch)
	Still image capture	704 x 576		
	Number of cameras	16	8	4
	Menu language	English / French / German / Spanish / Italian / Russian / Chinese / Polish / Czech / Swedish / Rumanian / Bulgarian / Serbian / Thai / Japanese		
	Telemetry control protocol	SANYO (H-SSP) / PELCO-C / BBV RS-485: SANYO (SSP) / PELCO-D / KALATEL / VICON / SENSORMATIC / ELMO		SANYO (H-SSP) / PELCO-D / KALATEL / VICON / SENSORMATIC / ELMO
Search mode		Event Search, Time / Date Search, Time line Search, Book Mark		Event Search, Time / Date Search, Time line Search
Memory backup		Approximately 30 days		
Video	Signal format	PAL standard (Color) / CCIR standard (B/W) auto select, 625 lines, 50 IPS		
	Video input	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 16	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 8	VBS / VS 1.0 V (p-p) 75 Ω, BNC x 4
	S-video output	x 1		———
	Main monitor output	VS 1.0 V (p-p) 75 Ω BNC x 1*1		
	Monitor 2 output	BNC x 1		———
	VGA output	VGA x1*1		
Audio	Audio input	-8 dBs 27 kΩ unbalanced RCA x 4		
	Audio output	-8 dBs 600 Ω unbalanced RCA x 1		
Net work	Interface	ADSL, LAN / DDNS supported		
	LAN port	10BASE-T / 100BASE-TX		
Backup	USB	Still image & Video data		
	CD-R/RW	Built-in DVD-R/RW		———
Control signa	Alarm output	x 4 (0.5 A 12.5 V AC, 1 A 30 V DC) [Values in parentheses are the relay ratings inside the DSR-2116/DSR-2108/DSR-2004.]		x 1 (0.5 A 12.5 V AC, 1 A 30 V DC)
	Sensor alarm input	x 16	x 8	x 4
Remote control		99 units		9 units
Electrical	Power source	100 V to 240 V AC, 4A		Input: 100 V to 240 V AC, 50/60 Hz Output: 12 V DC
	Power consumption	approx. 70W (HDD x 1+DVD-RW)	approx. 65W (HDD x 1+DVD-RW)	25 W / 12 V
	Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity: 80% or less		
Physical	Dimensions	432(W) x 98(H) x 349(D) mm [17 (W) x 3.9(H) x 13.7 (D) in]		350(W) x 65(H) x 260(D) mm [13.8 (W) x 2.6(H) x 10.2 (D) in]
	Weight (Approx.)	7.6kg [16.8.oz] (with two HDD unit + Built-inDVD-RW) 6.2kg [13.7.oz] (without HDD unit + Built-inDVD-RW)		3.2kg [112.9.oz] (with one HDD unit)

NOTE: Specifications subject to change without notice

*1 Either the video output or VGA output can be enabled at any one time.

Warnings regarding HDDs
- Do not attempt to install or replace a HDD on your own. You cannot use these HDDs on PCs.
- The unit may be damaged if it is exposed to an impact or vibration, or the power plug is disconnected during operation.
- Sanyo will not be held liable for any data loss due to an HDD error or a failure during recording.

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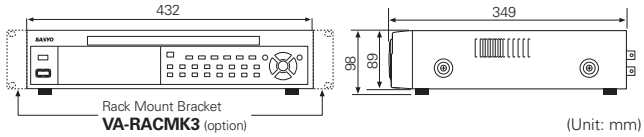
* All other company and product names are registered trademarks and/or trademarks of their respective owners.

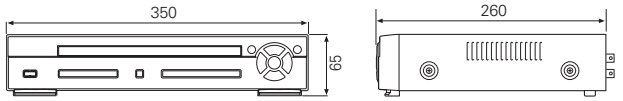
Optional (sold separately) See page 46 for details.
DVR Utility 2000S for DSR-2116 / DSR-2108 / DSR-2004
Rack Mount Bracket VA-RACMK3
for DSR-2116 / DSR-2108

DSR-2116 / DSR-2108



(Unit: mm)

DSR-2004



(Unit: mm)

SSP Control

Control all surveillance devices from one location using SANYO's proprietary protocol (SSP)

Model No.			
	VSP-9000	VSP-8500	VSP-3000
RS-485	●	●	●
RS-422	●	●	—
D-SUB 9pin	●	●	●
SANYO (SSP, H-SSP)	●	●	●
Pelco-D	●	●	●
Sensormatic	●	●	—
A.D.	●	●	—
VCL	●	●	—
Ernitec	●	●	—
Videotec (macro)	●	●	—
M.mercer	●	●	—
DVRs / Multiplexers: SANYO (SSP)	●	●	—
Video matrix switchers : Videotec	●	● (Only SM328S)	—
Total units in one system	256	256	256
Controllers	Max 5	Max 5	Max 5
DVR / MPX	98	98 (Only DVR)	—
Cameras	127 A port, 127 B port	127 A port, 127 B port	255
Password	3 password levels	3 password levels	1 password levels
Page	53	53	54

SSP devices

Cameras

Full HD PTZ Camera
VCC-HD5600P DAY NIGHT

Full HD PTZ Camera
VCC-HD5400P DAY NIGHT

High-resolution
AF Zoom Camera
VCC-ZM500P

High-resolution
AF Zoom Camera
VCC-ZM600P DAY NIGHT

High-resolution Weatherproof
AF Zoom Camera
VCC-XZ600P DAY NIGHT

High-resolution
AF Speed Dome Camera
VCC-9800P E DAY NIGHT
VCC-9600P E DAY NIGHT
VCC-9700P E
VCC-9500P E

PAN-FOCUS

High-resolution
Weatherproof Camera
VCC-XZ200P+VA-20ST DAY NIGHT

High-resolution Indoor mini
Dome Camera
VCC-P7575PA+VA-50ST

High-resolution Vandal-resistant
Dome Camera
VDC-DP7585P+VA-50ST DAY NIGHT

High-resolution Vandal-resistant
PTZ Dome Camera
VDC-DP9585P DAY NIGHT

High-resolution Indoor mini
PTZ Dome Camera
VCC-P9575P

Recorders

JPEG2000 9ch DVR **DSR-5709P**
JPEG2000 16ch DVR **DSR-5716P**
MPEG-4 8ch DVR **DSR2108**
MPEG-4 16ch DVR **DSR-2116**
MPEG-4 16ch DVR **DSR-HB8000**

VSP-9000

VSP-8500

Realize enhanced effectiveness in your security environment
The SSP Control System forms a state-of-the-art security environment that utilizes existing surveillance cameras and recording devices by effectively combining into a function device VSP-9000 / VSP-8500 Controller SANYO Security Serial Protocol (SSP) for RS-485 communications. The system enables the user-friendly linking of cameras, DVR and other devices, and you can control with your fingertips up to 254 cameras, 98 digital video recorders and 1 matrix.

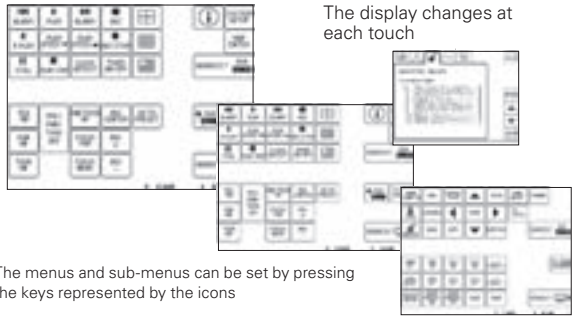
Control system supporting SSP telemetry devices and multiple protocols
It supports not only SSP (SANYO Security Serial Protocol), but also other major protocols such as Pelco-D, etc.

VSP-9000
Camera: SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec (macro), M.mercer (Max.2 protocols within 1 system)
DVRs / Multiplexers : SANYO (SSP)
Video matrix switchers : Videotec

VSP-8500
Cameras: SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec (macro), M.mercer (Max.2 protocols within 1 system)
DVR : SANYO (SSP)
Video Matrix SW : Videotec (SM328S; 32 inputs & 8 outputs)

Backlit LCD with a touch screen (VSP-9000)
The 320 x 240 LCD screen installed on the front panel also serves as a touch panel. Settings, operation, and control of even a large-scale system can be done by touching the screen and displaying the menu. The touch panel offers easy access to otherwise complicated settings and operations.

Touch the buttons displayed on the screen



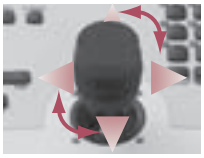
•The menus and sub-menus can be set by pressing the keys represented by the icons

Simple keystrokes on the VSP-8500 control DVRs and PTZ cameras. The VSP-3000 is capable of controlling PTZ cameras.

Customization of up to 26 user maps (VSP-9000)
User maps can easily be designed by PC GUI and uploaded on the VSP-9000 through RS-232C
• The VSP-9000 LCD touch panel simplifies the operation of today's increasingly complex medium- to large-scale security systems.

40 free configurable macro-function keys for each map (VSP-9000)
Allows the operator to control individual devices by assigning an address to each device.

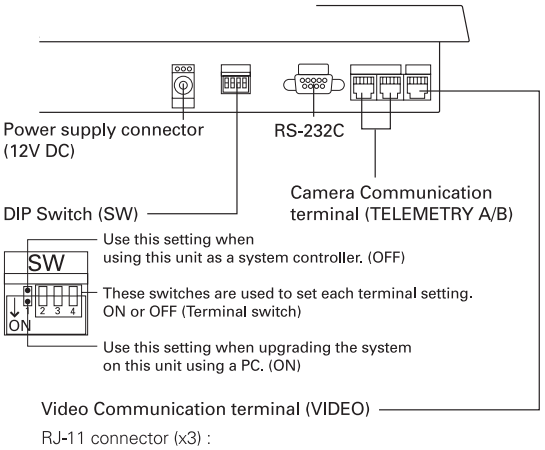
Telemetry control using 3-axis joystick (Pan/Tilt/Zoom)
To control digital video recorders, cameras, and other devices, the VSP-9000 and VSP-8500 controller is equipped with a 3-axis joystick. The joystick guarantees easy operation from a remote location.



Best solution for small-to-medium-size system (VSP-8500)
The VSP-8500 allows the user to control various devices with simple key operations and is suitable for small to medium-size surveillance systems with some cameras, DVRs, and a video matrix switcher.

Direct keys for Camera and DVR control

VSP-9000 / VSP-8500 rear panel


Power supply connector (12V DC)
RS-232C
Camera Communication terminal (TELEMETRY A/B)
DIP Switch (SW)
Use this setting when using this unit as a system controller. (OFF)
SW
ON
1 2 3 4
These switches are used to set each terminal setting. ON or OFF (Terminal switch)
Use this setting when upgrading the system on this unit using a PC. (ON)
Video Communication terminal (VIDEO)

RJ-11 connector (x3) :
Video line: DVR, Matrix switcher / Telemetry line (A & B): Camera

VSP-3000

• Simple camera control and DVR display switch change available • Control system supporting SSP / H-SSP and Pelco-D protocols • Telemetry control (pan/tilt/zoom) via 3-axis joystick and direct keys • Max. 255 cameras connectable (Max. 127 for SSP)

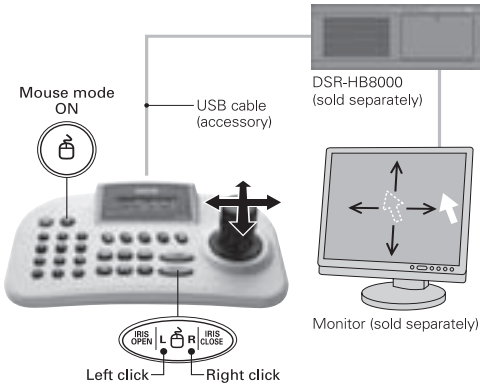
Telemetry control using 3-axis joystick (Pan/Tilt/Zoom)

To control cameras the VSP-3000 controller is equipped with a 3-axis joystick. The joystick guarantees easy operation from a remote location.

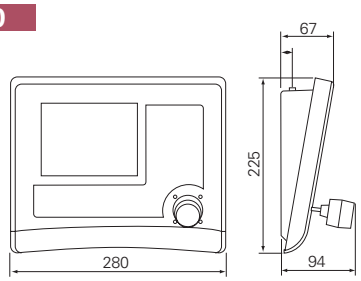
2-line backlit menu display

The display on the front LCD is easy to understand.

Mouse function for PC-based DVR, DSR-HB8000

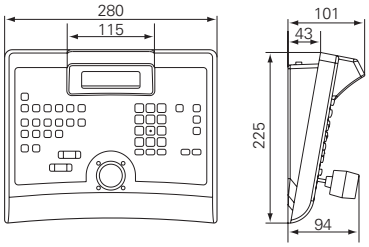


VSP-9000



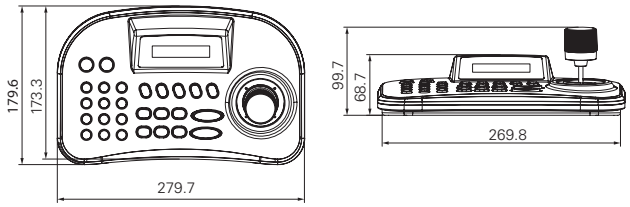
(Unit: mm)

VSP-8500



(Unit: mm)

VSP-3000



(Unit: mm)

Model	VSP-9000	VSP-8500	VSP-3000
Communication method	RS-485, RS-422		RS-485
Communication Speeds	2400, 4800, 9600, 19200 bps		2400, 4800, 9600, 19200, 38400, 57600 bps
Control terminals	RJ-11 : VIDEO x 1, TELEMETRY x 2 D-SUB 9pin x 1 (RS-232C: for PC)		TX1, TX2, TX3, TRx
Graphic display	320 x 240 pixels, backlit by white LED	4 lines backlit display	————
Keyboard	————	————	29 keys
Joystick	3-axis joystick (pan/tilt/zoom)		
USB mouse port	————	————	Compatible with DVRs with mouse function
No. of connectable devices	Total: 256 units in one system Controllers : Max 5, DVRs / Multiplexers : Max 98 via VIDEO terminal Cameras : 127 via TELEMETRY A port, 127 via TELEMETRY B port	Total: 256 units in one system Controllers : Max 5, DVRs : Max 98 via VIDEO terminal Cameras : 127 via TELEMETRY A port, 127 via TELEMETRY B port Matrix switchers (Videotec SM328S): Max. 1 unit via VIDEO terminal	Total: 256 units Cameras: SSP/HSSP: 127, Pelco-D: 255 Controllers: 5 Digital video recorders: 99 (Channel switching only)
No. of user maps	26 maps, 40 keys for each map	————	
Protocol	Cameras : SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec (macro), M.mercer (Max.2 protocols within 1 system) DVRs / Multiplexers : SANYO, Video matrix switchers : Videotec	Cameras : SANYO (SSP, H-SSP), Pelco-D, Sensormatic, A.D., VCL, Ernitec, Videotec (macro), M.mercer (Max.2 protocols within 1 system) DVR : SANYO Video Matrix switcher : Videotec (SM328S: 32 inputs & 8 outputs)	SSP, H-SSP, Pelco-D
Menu language	English / French / German / Italian (expandable to 12 languages using bundled software)	English / Spanish / French / German / Italian / Japanese	English / Spanish / French / German / Chinese / Japanese
Operating conditions	Temperature: 5°C to 40°C [41°F to 104°F], Humidity 80% or less		Temperature: -20°C to 60°C [-4°F to 140°F], Humidity 80% or lower
Power requirement	100 to 240 V AC, 50/60 Hz, 0.5 A with AC Adaptor		
Dimensions	280(W) x 94(H) x 225(D) mm [11.0(W) x 3.7(H) x 8.9(D) in.] (w/ 3-axis proportional joystick) (Graphic display: 115 x 86 mm) [4.5 x 3.4 in.]	280(W) x 101(H) x 225(D) mm [11.0(W) x 4.0(H) x 8.9(D) in.] (w/ 3-axis proportional joystick)	279.7(W) x 99.7(H) x 179.6(D) mm [11.2(W) x 4.0(H) x 7.2(D) in.]
Weight (approx.)	900 g [31.7 oz.]		750 g [26.5 oz.]
Accessories	AC adapter x 1, Power cable x 3 (for North America, UK, EU), RS-232C cable x 1, Modular cable x 6 (Cross Type : 150cm), Communication conversion connector (screw x 2, double faced tape x 1) x 6, Setup software (CD-ROM)	AC adapter x1, Power cable x 3 (for North America, UK, EU) Modular cable x 6 (Cross type: 150 cm) Communication conversion connector (screw x 2, double-faced tape x 1) x 6	AC adapter x1, power cord x 3 (for North America, UK, EU), USB cable, Connector, Modular cable x 1 (Straight type: 300cm), Communication conversion connector x 1, Double-faced tape x 1

NOTE: Specifications subject to change without notice

High Performance Professional LCD Monitor
VMC-L2619P
NEW

19" | Horizontal 620 TV Lines | 2 composite | S-VIDEO IN-OUT terminals | VGA input | MULTI PAL<->NTSC SYSTEM

High Performance Professional LCD Monitor
VMC-L2617P
NEW

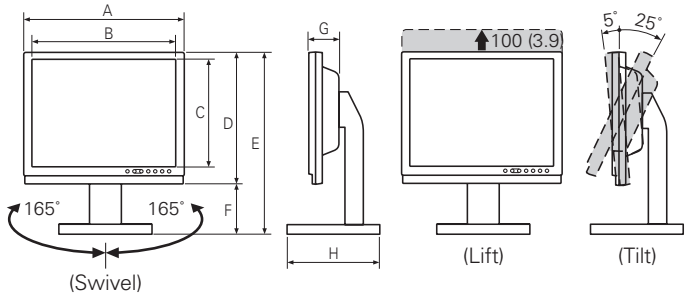
17" | Horizontal 620 TV Lines | 2 composite | S-VIDEO IN-OUT terminals | VGA input | MULTI PAL<->NTSC SYSTEM

Flat panel displays
These SXGA grade monitors display clear and crisp pictures. The thin package makes them the ideal choice for applications with limited space.

Easy to access front panel switches
Ease of operation is the focus of this design. The user can switch the display, set the volume, and set the scan from switches on the front panel, or by using the remote controller.

• 1280 x 1024 Resolution • 1000:1 High contrast ratio
• 2 composite and 1 S-VIDEO input (Loopthrough out, BNC type) • 1 VGA input • 2 audio input (RCA type)
• Multi-language OSD (12 languages) • Adjustable height
• Comes with a remote controller

VMC-L2619P / VMC-L2617P



Model	A	B	C	D	E	F	G	H
VMC-L2617P	371 (14.6)	339 (13.4)	272 (10.7)	331 (13.0)	368 (14.5)	37 (1.5)	67 (2.6)	220 (8.7)
VMC-L2619P	412 (16.2)	378 (14.9)	303 (11.9)	361 (14.2)	398 (15.7)		69 (2.7)	

Unit: mm (inch)

Model		VMC-L2619P	VMC-L2617P
Display type		SXGA a-Si TFT LCD	
LCD display		19" active matrix TFT LCD panel	17" active matrix TFT LCD panel
TV system		PAL / NTSC, Automatic detection	
Viewable size (H x V)		376 x 301 mm / 14.8 x 11.9 in. (4:3)	338 x 270 mm / 13.3 x 10.6 in. (4:3)
Pixel pitch (H x V)		0.294 x 0.294 mm / 0.012 x 0.012 in.	0.264 x 0.264 mm / 0.01 x 0.01 in.
Horizontal resolution		1,280 x 1,024, 620 TV lines or more (Y/C input mode)	
View Angle degree		Left / Right: 80°/ 80° Up / Down: 80° / 80°	
Scanning frequency		Horizontal: 30 kHz to 81 kHz, Vertical: 56 Hz to 75 Hz	
Contrast ratio		1000:1	
Brightness		300 cd/m² / 359 cd/yd²	
Response time Tr/Tf		1.3 / 3.7 msec	
Display color		16.7 M	
Display monitor timing		VESA compatible (VGA mode)	
Display mode		Video A, Video B, S-Video, VGA	
Input connector	Video signal (BNC IN)	Composite sync signal, 1.0 V(p-p), 75 Ω BNC connector x 2	
	S-Video signal (Y/C IN)	Separete Y/C signal, mini-DIN connector Y signal: 1.0 V(p-p), 75 Ω negative sync C signal: 0.286 V(p-p), 75 Ω negative sync	
	Audio signal (AUDIO IN)	2 x - 6.0 dBs (400 mVrms), 2 W (1W+1W) stereo, RCA pin	
	VGA signal (VGA IN)	VGA monitor connector (15-pin) Red signal, Green signal, Blue signal: 0.7 V(p-p), 75 Ω, positive sync	
Output connector	Video signal (BNC OUT)	2 x Composite sync signal, 1.0 V(p-p), 75 Ω BNC connector	
	S-Video signal (Y/C IOUT)	Separete Y/C signal, mini-DIN connector Y signal: 1.0 V(p-p), 75 Ω negative sync C signal: 0.286 V(p-p), 75 Ω negative sync	
Menu language		English / Chinese / French / German / Spanish / Italian / Portuguese / Dutch / Swedish / Russian / Korean / Japanese	
Power input		100 V to 240 V AC	
Operating condition		Temperature: 0°C to +40°C / 32°CF to 104°F, Humidity: 10% to 90% (non-condensaation)	
Storage condition		Temperature: -20°C to +45°C / -4°CF to 113°F, Humidity: 5% to 95%	
Power consumption (approx.)		42 W (0.7 A)	
Weight (approx.)		6.9 kg [15.2 lbs.]	6.0 kg [13.2 lbs.]

NOTE: Specifications subject to change without notice

Network Camera Line Up 2010

IP Camera

Serial No. / Category		Lens	D/N	Video streaming	Frame ratio	Streaming number	Simultaneous access capacity	Protocol	Power supply
Full HD PTZ Camera **VCC-HD5600P** **VCC-HD5600P BK** DAY NIGHT		Built-in **10x** AF zoom	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	4	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10% 230 V AC ±10%
Full HD PTZ Camera **VCC-HD5400P** **VCC-HD5400P BK** DAY NIGHT		Built-in **10x** AF zoom	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	4	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD Zoom Camera **VCC-HD4600P** DAY NIGHT		Built-in **10x** AF zoom	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	4	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD Vandal-resistant Dome Camera **VDC-HD3500P** DAY NIGHT		Built-in Vari-Focal	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	4	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD Vandal-resistant Dome Camera **VDC-HD3300P** DAY NIGHT		Built-in Vari-Focal	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	2	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD Vandal-resistant Dome Camera **VDC-HD3100P**		Built-in Vari-Focal	—	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	2	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD CS-Mount Camera **VCC-HD2500P** DAY NIGHT		CS-mount replaceable	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	4	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD CS-Mount Camera **VCC-HD2300P** DAY NIGHT		CS-mount replaceable	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	2	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD CS-Mount Camera **VCC-HD2100P**		CS-mount replaceable	—	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	2	Max.20	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, DDNS, FTP	24 V AC ±10%, 12 to 15 V DC PoE
Full HD Zoom Camera **VCC-HD4000P** DAY NIGHT		Built-in **10x** AF zoom	●	**H.264 and MJPEG** (Max.1920x1080 25ips)	Max.25 ips	2	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, RTP, RTSP, UPnP, DDNS, FTP,	24 V AC ±10%, 12 to 15 V DC PoE
1/3" Color CCD High-resolution E-Day/night Network Camera **VCC-N6695P** ***E-*** DAY NIGHT		CS-mount replaceable	●	**H.264 and JPEG** (Max.720x576 25ips)	Max.25 ips	1	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	24 V AC ±10%, 12 to 15 V DC PoE
High-resolution Weatherproof AF Zoom Network Camera **VCC-XZN600P** DAY NIGHT		Built-in **30x** AF zoom	●	**H.264 and JPEG** (Max.720x576 25ips)	Max.25 ips	1	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	24 V AC ±10%, 12 to 15 V DC PoE
High-resolution AF Zoom Network Camera **VCC-ZMN600P** DAY NIGHT		Built-in **30x** AF zoom	●	**H.264 and JPEG** (Max.720x576 25ips)	Max.25 ips	1	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	24 V AC ±10%, 12 to 15 V DC PoE
High-resolution Vandal-resistant PTZ Network Dome Camera **VDC-DPN9585P** DAY NIGHT		Built-in **2.6x** Pan-focus zoom	●	**JPEG** (Max.720x286 25ips)	Max.25 ips	1	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	24 V AC ±10%, 12 to 15 V DC PoE
High-resolution Indoor mini PTZ Network Dome Camera **VCC-PN9575P**		Built-in **2.6x** Pan-focus zoom	—	**JPEG** (Max.720x286 25ips)	Max.25 ips	1	Max.16	TCP/IP, UDP, HTTP, HTTPS, SMTP, NTP, DHCP, FTP, UPnP, DDNS	24 V AC ±10%, 12 to 15 V DC PoE

Camera Line Up 2010

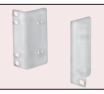
	Category / Serial No.		Lens	D/N	Sensor size	Horizontal resolution	Minimum illumination	Backlight compensation	White balance	Power supply
Speed Dome	High-resolution 36x AF Speed Dome Camera **VCC-9800P E** DAY NIGHT		Built-in **36x** AF zoom	●	1/4"	540 TVL	Color 1.0 lx B/W 0.05 lx (F1.6)	Multi-spot 5-section	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, or 230 V AC ±10%
	High-resolution 36x AF Speed Dome Camera **VCC-9700P E**		Built-in **36x** AF zoom	—	1/4"	540 TVL	1.0 lx (F1.6)	Multi-spot 5-section	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, or 230 V AC ±10%
	High-resolution 30x AF Speed Dome Camera **VCC-9600P E** DAY NIGHT		Built-in **30x** AF zoom	●	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot 5-section	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, or 230 V AC ±10%
	High-resolution 30x AF Speed Dome Camera **VCC-9500P E**		Built-in **30x** AF zoom	—	1/4"	540 TVL	0.8 lx (F1.4)	Multi-spot 5-section	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, or 230 V AC ±10%
Weatherproof	High-resolution Weatherproof AF Zoom Camera **VCC-XZ600P** DAY NIGHT		Built-in **30x** AF zoom	●	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, 12 V to 15 V DC
Zoom	High-resolution AF Zoom Camera **VCC-ZM600P** DAY NIGHT		Built-in **30x** AF zoom	●	1/4"	540 TVL	Color 0.8 lx B/W 0.04 lx (F1.4)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, 12 V to 15 V DC
	High-resolution AF Zoom Camera **VCC-ZM500P**		Built-in **30x** AF Zoom	—	1/4"	540 TVL	0.8 lx (F1.4)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
Pan-focus	High-resolution Vandal-resistant Dome Camera **VDC-DP7585P** DAY NIGHT		Built-in **2.6x** Pan-focus zoom	●	1/4"	520 TVL	Color 1.2 lx B/W 0.06 lx (F1.9)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
	High-resolution Indoor mini Dome Camera **VCC-P7575PA**		Built-in **2.6x** Pan-focus zoom	—	1/4"	520 TVL	1.9 lx (F1.9)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10% 12 V to 15 V DC
	High-resolution Weatherproof AF Zoom Camera **VCC-XZ200P** DAY NIGHT		Built-in **2.6x** Pan-Focus zoom	●	1/4"	520 TVL	Color 1.2 lx B/W 0.06 lx (F1.9)	Multi-spot Center-zone	ATW/ AWC Indoor / Outdoor Fluorescent Manual	24 V AC ±10%, 12 V to 15 V DC
Dome	High-resolution Vandal-resistant WDR Dome Camera **VDC-WD9885VP** DAY NIGHT		Built-in **3.8x** Vari-focal	●	1/3"	550 TVL	Color 0.8 lx B/W 0.08 lx (F1.2)	ON / OFF	ATW AWC Manual	24 V AC ±10%, 12 V to 15 V DC
	High-resolution Indoor mini WDR Dome Camera **VCC-W9875VP**		Built-in **3.8x** Vari-focal	—	1/3"	550 TVL	0.8 lx (F1.2)	ON / OFF	ATW AWC Manual	24 V AC ±10%, 12 V to 15 V DC
WDR	1/3" CMOS High-resolution WDR Day/night Camera **VCC-WD8875P** DAY NIGHT		CS mount replaceable	●	1/3"	550 TVL	Color 0.8 lx B/W 0.08 lx (F1.2)	Wide Dynamic Range	ATW Manual	24 V AC ±10% 12 V to 15 V DC
	1/3" CMOS High-resolution WDR Day/night Camera **VCC-WD8870P** DAY NIGHT		CS mount replaceable	●	1/3"	550 TVL	Color 0.8 lx B/W 0.08 lx (F1.2)	Wide Dynamic Range	ATW Manual	220 V to 230 V AC
	1/3" CMOS High-resolution WDR Camera **VCC-W8775P**		CS mount replaceable	—	1/3"	550 TVL	0.8 lx (F1.2)	Wide Dynamic Range	ATW Manual	24 V AC ±10% 12 V to 15 V DC
	1/3" CMOS High-resolution WDR Camera **VCC-W8770P**		CS mount replaceable	—	1/3"	550 TVL	0.8 lx (F1.2)	Wide Dynamic Range	ATW Manual	220 V to 230 V AC

Camera Line Up 2010

	Category / Serial No.		Lens	D/N	Sensor size	Horizontal resolution	Minimum illumination	Backlight compensation	White balance	Power supply
Vandal-resistant	High-resolution WDR Vandal-resistant Dome Camera **VDC-W1595VP**		Built-in **2.3x** Vari-focal zoom	—	1/3″	480 TVL	1.0 lx (F1.4)	Wide Dynamic Range	ATW-A ATW	24 V AC ±10% 12 V to 15 V DC
Vandal-resistant	High-resolution Vandal-resistant IR Dome Camera with IR LED **VDC-D1785IRVP** DAY NIGHT		Built-in **3.2x** Vari-focal zoom	●	1/3″	540 TVL	Color 0.7 lx 0.0 lx LED-ON (F1.4)	ON / OFF	ATW	24 V AC ±10%, 12 V DC ±10%
Vandal-resistant	High-resolution Vandal-resistant Dome Camera **VDC-D1585VP** DAY NIGHT		Built-in **2.3x** Vari-focal zoom	●	1/3″	520 TVL	Color 1.0 lx B/W 0.05 lx (F1.4)	ON/OFF	ATW-A ATW	24 V AC ±10% 12 V to 15 V DC
Vandal-resistant	High-resolution Vandal-resistant Dome Camera **VDC-C1575VP**		Built-in **2.3x** Vari-focal zoom	—	1/3″	520 TVL	1.0 lx (F1.4)	ON / OFF	ATW-A ATW	24 V AC ±10% 12 V to 15 V DC
Dome	High-resolution Indoor mini Dome Camera **VCC-9785VP**		Built-in **3.6x** Vari-focal	—	1/3″	540 TVL	0.4 lx (F1.3)	ON / OFF	ATW	24 V AC ±10%, 12 V DC ±10%
CS-mount	1/3″ Color CCD High-resolution Camera **VCC-5995P**		CS mount replaceable	—	1/3″	540 TVL	0.5 lx (F1.2)	Center-zone	ATW	24 V AC ±10% 12 V to 15 V DC
CS-mount	1/3″ Color CCD E-Day/night High-resolution Camera **VCC-6695P** E-DAY NIGHT		CS mount replaceable	●	1/3″	540 TVL	Color 0.35 lx B/W 0.25 lx (F1.2)	Multi-spot Center-zone	ATW Manual	24 V AC ±10% 12 V to 15 V DC
CS-mount	1/3″ Color CCD E-Day/night High-resolution Camera **VCC-6690P** E-DAY NIGHT		CS mount replaceable	●	1/3″	540 TVL	Color 0.35 lx B/W 0.25 lx (F1.2)	Multi-spot Center-zone	ATW Manual	220 V to 230 V AC
CS-mount	1/3″ Color CCD High-resolution Day/night Camera **VCC-4795P E** DAY NIGHT		CS mount replaceable	●	1/3″	540 TVL	Color 0.45 lx B/W 0.01 lx (F1.2)	Multi-spot Center-zone	ATW Manual	24 V AC ±10% 12 V to 15 V DC
CS-mount	1/3″ Color CCD High-resolution Day/night Camera **VCC-4790P E** DAY NIGHT		CS mount replaceable	●	1/3″	540 TVL	Color 0.45 lx B/W 0.01 lx (F1.2)	Multi-spot Center-zone	ATW Manual	220 V to 230 V AC

DVR Line Up 2010

	Category / Serial No.	Size of HDD Capacity	Number of connection	Multi-screen display	Recording speed (IPS)	Max. resolution	SSP (RS-485) compatible	Telemetry control	Network terminal	Backup media	Power supply
MPEG-4	16ch Hybrid DVR **DSR-HB8000**	2 TB	16 (Network camera max.8 units)	4 / 9 / 16-screen, Plus display	400 IPS / 16 ch CIF, 200 IPS / 8ch Half D1, 100 IPS / 4ch D1	720 x 576	●	●	●	Built-in DVD+R/RW CD-R/RW USB Flash memory	100 V to 240 V AC 50/ 60 Hz Free voltage
JPEG2000	16ch DVR **DSR-5716P**	2 TB	16	4 / 9 16-screen, Plus display	100 IPS	720 x 288	●	●	●	DVD-R/RW CD-R/RW with VA-EXD1 B USB Flash memory	120 V to 240 V AC 50/ 60 Hz
	9ch DVR **DSR-5709P**	2 TB	9	4 / 9 -screen, Plus display	100 IPS	720 x 288	●	●	●	DVD-R/RW CD-R/RW with VA-EXD1 B USB Flash memory	120 V to 240 V AC 50/ 60 Hz
MPEG-4	16ch MPEG-4 DVR **DSR-2116**	1 TB	16	4 / 9 16-screen	200 IPS	704 x 576	●	●	●	CD-R/RW, DVD-R/RW USB Flash memory	100 V to 240 V AC, 4A
	8ch MPEG-4 DVR **DSR-2108**	1 TB	8	4 / 8-screen	100 IPS	704 x 576	●	●	●	CD-R/RW, DVD-R/RW USB Flash memory	100 V to 240 V AC, 4A
	4ch MPEG-4 DVR **DSR-2004**	1 TB	4	4 screen	100 IPS	704 x 576	—	●	●	USB Flash memory	Input 100 V to 240 V AC 50 / 60 Hz Output 12 V DC

Category / Serial No.	Description	Category / Serial No.	Description
External HDD Unit for DSR-HB8000 **VA-EXH**	The VA-EXH is an expansion unit that employs 4 HDD bays and enables further extension of recording time.	S-ATA - PATA Conversion Board **VA-SPC2**	S-ATA - PATA conversion board. for DSR-2004
Disc Writer Unit **VA-EXD1 B**	This external DVD / CD-Writer is a perfect match for DSR-5716P, DSR-5709P.	Rack Mount Bracket **VA-RACMK1** (1U)	Rack mount bracket for VA-EXD1 B
SCSI Board **VZU-SCB1**	The VZU-SCB1 enables the connection to an external RAID system. For further details on compatible devices, please contact the place of purchase.	Rack Mount Bracket **VA-RACMK2** (2U) 	Rack mount bracket for DSR-5716P, DSR-5709P VA-EXH
S-ATA Board **VZU-SATB1**	The VZU-SATB1 enables the connection to an external HDD unit.	Rack Mount Bracket **VA-RACMK3**	Rack mount bracket for DSR-DSR-2116, DSR-2108
S-ATA - PATA Conversion Board **VA-SPC1A**	A PATA - SATA conversion board. for DSR-5716P, DSR-5709P		

SSP Line Up 2010

Category / Serial No.	Communication method	Control terminals	Touch Panel	Menu language	No. of user maps	Protocol	Power Source	Dimensions
SSP System Controller **VSP-9000**	RS-485, RS-422, RS-232C	RJ-11: 3 ports, D-SUB 9pin:1	320 x 240 pixels, backlit by white LED	English / French / German / Italian / Cutomisation	26 maps, 40 keys for each map	**Camera**: SANYO SSP, H-SSP, Mark Mercer, Videotec (macro), Ernitec, Pelco-D, Macro Sensormatic, A.D., VCL **DVR / MPX**: SANYO **Matrix switcher**: Videotec	Approx. 12 V DC, 1A (AC adaptor)	280(W) x 94(H) x 225(D) mm (w / 3-axis proportional joystick)
SSP System Controller **VSP-8500**	RS-485, RS-422, RS-232C	RJ-11: 3 ports, D-SUB 9pin:1	———	English / Spanish / French / German / Italian / Japanese	———	**Camera**: SANYO SSP, H-SSP, Mark Mercer, Videotec (macro), Ernitec, Pelco-D, Sensormatic, A.D., VCL **DVR**: SANYO SSP **Video Matrix switcher**: Videotec (only SM328S)	Approx. 12 V DC, 1A (AC adaptor)	280(W) x 101(H) x 225(D) mm (w / 3-axis proportional joystick)
SSP System Controller **VSP-3000**	RS-485	Tx1 Tx2 Tx3 TR x	———	English only	———	**Camera**: SANYO SSP, H-SSP, Pelco-D	Approx. 12 V DC, 200mA (AC adaptor)	280(W) x 100(H) x 180(D) mm (w / 3-axis proportional joystick)

Monitor Line Up 2010

	Serial No. / Category		Horizontal resolution	Video input	S-Video input	Multi system	Scan	Speaker	Power supply	Menu language
LCD	19" High Performance Professional LCD Monitor **VMC-L2619P**		620TVL	A / B	●	●	Over / under	●	100 V to 240 V AC 50 / 60 Hz	English / Spanish / French / German / Italian / Russian / Dutch / Swedish /Portuguese / Korean / Chinese / Japanese
	17" High Performance Professional LCD Monitor **VMC-L2617P**		620TVL	A / B	●	●	Over / under	●	100 V to 240 V AC 50 / 60 Hz	English / Spanish / French / German / Italian / Russian / Dutch / Swedish /Portuguese / Korean / Chinese / Japanese

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DSR-2108	**MPEG-4** 8ch Digital Video Recorder	51
DSR-2116	**MPEG-4** 16ch Digital Video Recorder	51
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***Caution:** Please consult the instruction manual to ensure safe and proper operation of the product.

Digital System Company of SANYO Electric Co., Ltd. obtained Quality Management System ISO9001 and Environmental Management System ISO14001 certifications.

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